

Chapter 6: Assessment of Local Laws and Practices Affecting Water Quality

We use it to irrigate crops. We use it as a means of transportation and as an economic stimulator. We need it to live. Abundant, clean water is one of our most essential resources, but one that is often taken for granted. However, we all benefit from this much needed resource and have a responsibility to protect and restore it. Protecting water quality requires action from numerous groups and individuals, but local municipalities play an especially critical role in the stewardship of watersheds. Municipal activities such as public education, road de-icing practices, stormwater management, sediment and erosion control regulations, and development and enforcement of local code all contribute greatly to the quality of local water resources.

This chapter reviews the ability and capacity of local governments throughout the Niagara River watershed to control non-point source pollution by assessing their existing local laws and management practices.

Niagara River Watershed Municipalities

Erie County

37 Municipalities

Cities of Buffalo*, Lackawanna*, Tonawanda*

Towns of Alden*, Amherst*, Aurora*, Boston*, Cheektowaga*, Clarence*, Colden, Concord, Eden*, Elma*, Evans*, Grand Island*, Hamburg*, Holland, Lancaster*, Marilla, Newstead, North Collins, Orchard Park*, Sardinia, Tonawanda*, Wales, West Seneca*

Villages of Akron, Alden*, Blasdell*, Depew*, East Aurora*, Hamburg*, Kenmore*, Lancaster*, Orchard Park*, Sloan*, Williamsville*

Genesee County

10 Municipalities

City of Batavia

Towns of Alabama, Alexander, Batavia, Bethany, Darien, Pembroke, Stafford,

Villages of Alexander and Corfu

Niagara County

13 Municipalities

Cities of Lockport*, Niagara Falls*, North Tonawanda*

Towns of Cambria*, Lewiston*, Lockport, Niagara*, Pendleton*, Porter*, Royalton, Wheatfield*

Assessment Methodology

Because of the sheer size of the watershed (1,225 square miles) and the number of municipalities it encompasses (71 total), the analysis of municipal efforts was broken into two levels. The first level is a general assessment of the use and status of common planning and development tools across the watershed as a whole. This initial review provides a collective snapshot of the level to which watershed municipalities plan and regulate land use and development; important gauges of how our water resources are being maintained, protected, and restored.

The second level of review involved a much more in-depth assessment of local laws and zoning regulations, as well as any local departmental policies or practices (documented or un-documented), to gauge how directly municipalities are employing Best Management Practices (BMPs) for watershed protection. This in-depth assessment involved 13 municipalities spread across the watershed, which were chosen based on their location, development density, current trends or appropriate timing, and willingness to participate in the assessment.

Findings from both the general and in-depth assessments pinpoint opportunities to expand regulations, programs and practices for watershed protection at the local level. To further assist municipalities in improving their effectiveness, a series of resources are also outlined in this section of the plan, including information on BMPs, model zoning ordinances, and a summary of supporting programs and technical assistance provided by other Niagara River Watershed Organizations and Agencies.

Municipal Role in Water Quality Control

While there is an increasing tendency to plan for and manage surface and ground waters on regional basis, local governments with their power to regulate and oversee land development are essential players of these critical efforts. In New York State, local municipalities have significant land use powers¹ that can be used to address a wide variety of environmental issues. Comprehensive plans, land use and zoning tools such as site plan review, subdivision regulation, erosion and sediment control ordinances, and special use permits can be used separately or in combination to protect/conservate important water resources.

General Assessment of Local Planning & Development Tools

The following tables identify which communities in the watershed employ basic planning and zoning tools. Municipalities are not required to have such regulations in New York State and their existence

¹ New York is a Home Rule state. See NY MHR Law Articles 1-6.

NIAGARA RIVER WATERSHED MANAGEMENT PLAN (Phase 1)

for a specific community should not be assumed. In some cases even if such regulations do exist, they are not always up to date or as effective as they could be.

Table 6.1 Status of Municipal Planning & Zoning Tools for Erie County

Municipality	Type	Comp. Plan	Zoning	Sub-division	Site Plan Review	Municipality	Type	Comp. Plan	Zoning	Sub-division	Site Plan Review
Buffalo	City	Yes (2006)	Yes	Yes	Yes	Newstead	Town	Yes (2001)	Yes	Yes	Yes
Lackawanna	City	Yes (2001)	Yes	No	Yes	North Collins	Town	Yes (1996)	Yes	Yes	Yes
Tonawanda	City	Yes (2002)	Yes	Yes	Yes	Orchard Park	Town	Yes (2007)	Yes	Yes	Yes
Alden	Town	Yes (2009)	Yes	Yes	Yes	Sardinia	Town	Yes (2003)	Yes	Yes	Yes
Amherst	Town	Yes (2011)	Yes	Yes	Yes	Tonawanda	Town	Yes (2005)	Yes	Yes	Yes
Aurora	Town	Yes (2012)	Yes	Yes	Yes	Wales	Town	Yes (2002)	Yes	Yes	Yes
Boston	Town	Yes (2002)	Yes	Yes	Yes	West Seneca	Town	Yes (2005)	Yes	Yes	Yes
Cheektowaga	Town	Yes (2010)	Yes	Yes	Yes	Akron	Village	Yes (2001)	Yes	Yes	Yes
Clarence	Town	Yes (2007)	Yes	Yes	Yes	Alden	Village	Yes (2009)	Yes	Yes	Yes
Colden	Town	Yes (2002)	Yes	Yes	Yes	Blasdell	Village	Yes (1992)	Yes	Yes	Yes
Concord	Town	Yes (1999)	Yes	Yes	Yes	Depew	Village	Yes (2000)	Yes	Yes	Yes
Eden	Town	Yes (2000)	Yes	Yes	Yes	East Aurora	Village	Yes (2002)	Yes	Yes	Yes
Elma	Town	Yes (2008)	Yes	Yes	Yes	Hamburg	Village	Yes (2012)	Yes	Yes	Yes
Evans	Town	Yes (1999)	Yes	Yes	Yes	Kenmore	Village	Yes (2003)	Yes	Yes	Yes
Grand Island	Town	Yes (2011)	Yes	Yes	Yes	Lancaster	Village	Yes (2000)	Yes	Yes	Yes
Hamburg	Town	Yes (2008)	Yes	Yes	Yes	Orchard Park	Village	Yes (2002)	Yes	Yes	Yes
Holland	Town	Yes (2002)	Yes	Yes	Yes	Sloan	Village	No	Yes	No	No
Lancaster	Town	Yes (2000)	Yes	Yes	Yes	Williamsville	Village	Yes (2008)	Yes	Yes	Yes
Marilla	Town	Yes (1998)	Yes	Yes	Yes	TOTALS	37	36	37	35	36

Table 6.2 Status of Municipal Planning & Zoning Tools for Niagara County

Municipality	Type	Comp. Plan	Zoning	Sub-division	Site Plan Review	Municipality	Type	Comp. Plan	Zoning	Sub-division	Site Plan Review
Lockport	City	Yes (1999)	Yes	Yes	Yes	Pendleton	Town	Yes (2008)	Yes	Yes	Yes
Niagara Falls	City	Yes (2009)	Yes	Yes	Yes	Porter	Town	Yes (2004)	Yes	Yes	Yes
N. Tonawanda	City	Yes (2008)	Yes	Yes	Yes	Royalton	Town	Yes (2009)	Yes	Yes	Yes
Cambria	Town	Yes (1997)	Yes	Yes	Yes	Wheatfield	Town	Yes (2012)	Yes	Yes	Yes
Lewiston	Town	Yes (2011)	Yes	Yes	Yes	Lewiston	Village	Yes (2004)	Yes	Yes	Yes
Lockport	Town	Yes (1999)	Yes	Yes	Yes	Youngstown	Village	Yes (1972)	Yes	Yes	Yes
Niagara	Town	Yes (1972)	Yes	Yes	Yes	TOTALS	13	13	13	13	13

Table 6.3 Status of Municipal Planning & Zoning Tools for Genesee & Orleans* Counties

Municipality	Type	Comp. Plan	Zoning	Sub-division	Site Plan Review	Municipality	Type	Comp. Plan	Zoning	Sub-division	Site Plan Review
Batavia	City	Yes (1997)	Yes	Yes	Yes	Pembroke	Town	Yes (2007)	Yes	Yes	Yes
Alabama	Town	Yes (2004)	Yes	Yes	Yes	Stafford	Town	Yes (2009)	Yes	Yes	Yes
Alexander	Town	Yes (2003)	Yes	Yes	Yes	Alexander	Village	Yes (2003)	Yes	Yes	Yes
Batavia	Town	Yes (2007)	Yes	Yes	Yes	Corfu	Village	Yes (2008)	Yes	Yes	Yes
Bethany	Town	Yes (2007)	Yes	Yes	Yes	Shelby*	Town	Yes (2003)	Yes	Yes	Yes
Darien	Town	Yes (2005)	Yes	Yes	Yes	TOTALS	11	11	11	11	11

Table 6.4 Status of Municipal Planning & Zoning Tools for Wyoming County

Municipality	Type	Comp. Plan	Zoning	Sub-division	Site Plan Review	Municipality	Type	Comp. Plan	Zoning	Sub-division	Site Plan Review
Arcade	Town	Yes (1996)	Yes	Yes	Yes	Sheldon	Town	Yes (2011)	Yes	No	No
Attica	Town	Yes (2011)	Yes	Yes	Yes	Warsaw	Town	Yes (2004)	Yes	Yes	Yes
Bennington	Town	Yes (2005)	Yes	No	Yes	Wethersfield	Town	No	No	No	No
Java	Town	Yes (pending)	Yes	No	Yes	Attica	Village	Yes (2003)	Yes	Yes	Yes
Middlebury	Town	Yes (2009)	Yes	No	Yes	TOTALS	10	9	9	4	8
Orangeville	Town	Yes (2009)	Yes	No	Yes						

Comprehensive Plans

Comprehensive plans or municipal plans are guidance documents developed with widespread community input, to identify and define a community’s vision and goals for the future. The planning process analyzes current conditions and trends, plus community needs and challenges, and then relates those findings to the public’s vision for the future. The outcome of the planning process is a broad set of goals and strategies to guide the community’s future direction for a variety of topic areas, such as land use and development, natural resource conservation, affordable housing, economic development, and municipal services. By incorporating water quality goals and strategies into a community’s comprehensive plan, local municipalities can have a long lasting impact on protecting and improving the surrounding watershed.

69 of the 71 Niagara River Watershed municipalities have developed Comprehensive Plans.

Almost every municipality in the watershed has a comprehensive plan, but many of them have not been updated on a regular basis, which can lessen their effectiveness. At the time of this study approximately 22 communities had recently updated their comprehensive plans (within the last 5 years), and only 3 communities had comprehensive plans over 20 years old. A majority of the remaining plans were developed in the early-to-mid 2000’s. It should also be noted that the best comprehensive plans are also only as effective as the tools by which they are implemented, such as zoning regulations, conservation and affordable housing programs, and capital budget plans.

Zoning Regulations

Zoning is the most common and extensively used way of regulating local land use and development. It also serves as the primary tool for implementing comprehensive plan recommendations. Zoning generally regulates the use, density, siting and form of development on individual parcels of land. Zoning directs the way a community develops. Just as zoning controls the relationship

70 of the 71 Niagara River Watershed municipalities have adopted Zoning Regulations.

between different – and potentially conflicting- uses, it also can control how development impacts water quality.

Having zoning regulations in effect does not necessarily mean the watershed is protected from poor development decisions. More so it is how the zoning regulations are designed, what existing natural site features are taken into account during permitting, and how effectively these regulations are enforced. Without proper enforcement of local ordinances, it's almost as if no regulations are in effect at all.

Site Plan Review

Site Plan Review is a component of zoning that is used to review the layout and design of development on individual parcels. Depending on how elaborate the local site plan review requirements are, the Planning Board (local legislature or other designated review board) can use it to dictate such specifics as building placement, vehicular access and parking, drainage and stormwater design, landscaping, and the protection and maintenance of natural features existing on the site. It is an essential zoning tool for a community to control the way its land is developed. Lack of an adequate site plan review process limits the Planning Board (or other designated review body) the authority and ability to modify development on a site-specific basis. Two model site plan review laws are provided in Appendix F.

68 of the 71 Niagara River Watershed municipalities have a Site Plan Review process.

While a majority of the watershed communities have a site plan review process, how effective the review process will be in reducing development impacts to water quality and natural site features will be completely dependent upon the reviewing body (i.e. planning board or other administrative agency) and how strictly they apply review criteria. It is also important for zoning regulation language to be as clear and specifically written as possible (i.e. findings of fact, district intent, review criteria), in order for the reviewing body to have distinct authority to modify site plans or place additional conditions on permits.

Subdivision

One of the most common land use activities is the subdivision of land. Subdivision regulations control the way that land is divided into smaller parcels. These regulations ensure that when development occurs parcels are of adequate size and shape, and streets, lots, open space and infrastructure are adequately designed and provided for. Subdivision regulations can affect where new

63 of the 71 Niagara River Watershed municipalities have Subdivision Regulations.

development occurs, the future density of a community, the layout and extension of municipal infrastructure, and the protection of open spaces and other natural features (i.e. cluster development). A model subdivision ordinance is included in Appendix G.

It should be noted that a number of municipalities within the watershed do not have subdivision regulations simply because they consider themselves “built-out” and are no longer allowing subdivision of land, such as the Village of Sloan.

Environmental Protection Overlay Districts

There are several different types of overlay districts, such as those that address flooding, wetlands, riparian buffers, special habitats, scenic view sheds, and urban design standards. Environmental Protection Overlay Districts are a type of zoning overlay designed to address environmental concerns. The overlay nature of this zoning tool means it overlaps the underlying zoning districts to provide additional regulations specific to the goals of the community. Table 6.5 outlines the watershed municipalities that have enacted overlay regulations as part of their zoning code to protect or conserve special environmental features related to water quality.

9 of the 71 Niagara River Watershed municipalities have Environmental Overlay Regulations.

Table 6.5 Environmental Protection Overlay Districts

Municipality	Overlay	Overlay Intent/Purpose
City of Lackawanna	Smokes Creek Overlay	Riparian protections on Smokes Creek. Establishes 15 ft vegetative shoreline buffers; 50 ft buffers for development setbacks/adverse land uses, exempting trails, water-related activities, and stormwater retention/detention facilities from development/setback restrictions.
Town of Cheektowaga	Critical Environmental Impact Zone	Provides additional regulatory provisions that allow for passive recreation and other low-intensity uses, and prohibits primary structures, parking lots, such other adverse land uses. Includes the Reinstein Woods Nature Preserve; all DEC designated wetlands; Cayuga Creek, its tributaries and 100 yr floodplain; and Inactive Hazardous Waste Sites.
Town of Clarence	Open Space Design Overlay	Encourages the creation of clustered development to preserve natural and scenic qualities of open land. Applicants are encouraged at the Town Board's discretion to establish lots and cluster development in a way that important lands and/or resources are preserved (i.e. green space, woodlands, significant views, prime farmland, etc.)
Town of Grand Island	Enhanced Environment Overlay	Restricts development to low-intensity/complementary structures and land uses to protect valuable ecological environments identified in the Comprehensive Plan and LWRP. Design review assistance is provided by the Conservation Commission and designs must preserve eco-system function, limit impact, and mitigate intrusion.
Town of Hamburg	Lakeview Overlay District	Aims to preserve rural and important natural features (wetlands, woodlands, wildlife habitats, designated conservation areas) of the Lakeview area through design guidelines. Guidelines direct preservation of important environmental features, significant trees, open space, important cultural features, and clustered development.
Town of Marilla	Conservation Overlay District	Provides additional protections for areas with high natural resources value, focusing on water courses, wetlands, agricultural lands, flood and erosion prone areas, and wildlife habitats. Restricts development on steep slopes, filling/altering of wetlands, clearing of forestland, and requires large lots (min. 5 acres) and 50 ft vegetative setbacks on all major creeks.
Town of Sardinia	Conservation Protection Overlay	Provides preservation of openspace through large-lot zoning (min. 5 acres), and limiting permitted uses to agriculture, conservation, golf courses, recreation, game preserves, and rifle ranges. Prohibits all structures, the creation of impervious surfaces, fill, excavation, and storage of materials.
Town of Lewiston	Riverfront Overlay District	Restricts re-grading, minimizes run-off and erosion, and focus on preserving natural features (streams, slopes, ridgelines, rock outcroppings, vegetation, trees) for portions of the Niagara River shoreline, north of the Village of Lewiston. Site plan review takes into account soils, hydrology, geology, and erosion factors.
Village of Youngstown	Waterfront Bluff Overlay	Preserves the steep bluff that runs along the Niagara River shoreline from erosion, with design standards that require vegetative protections, the stabilizing of soils, and limiting run-off from trails and construction activities. Design standards also preserve the view shed and scenic areas of the bluff.

Local Laws, Practices, and Programs that affect Water Quality

In addition to the common planning and zoning tools, there are also some lesser utilized laws, practices, and programs that municipalities can undertake to further protect local water resources.

1. Open Space, Conservation and Natural Space Planning & Preservation

Open space is a valuable asset for many reasons. It increases surrounding property values, provides a psychological “rest” from the urban environment and has numerous environmental and water quality benefits. Preservation of open space can be a very effective way of preserving water quality by limiting development in sensitive and unique areas, such as riparian buffers, wetlands, floodplains and other natural infrastructure. Municipalities should undertake open space or conservation planning, to inventory these resources and prioritize key areas for protection.

Protecting important open spaces can be done through a variety of ways, such as through the transfer of development rights, conservation easements, or purchase. Regionally, the Western

New York Land Conservancy has partnered with 15 watershed municipalities and a number of landowners to protect over 3,400 acres of agricultural and open space in the region. Watershed municipalities with significant efforts in open space planning and conservation include the Towns of Amherst, Aurora, Clarence and Marilla.

Two model ordinances for conservation/open space protection are provided in Appendix H.

2. Sewer and Water Infrastructure

Sewer and water infrastructure is built and/or operated by municipalities or regional authorities. Careful planning and review of all such infrastructure is important because new or upgraded sewer systems can significantly improve water quality in an area with failing onsite wastewater treatment systems. However, new sewer and water infrastructure may lead to inappropriate growth and development, more impervious surface area and the potential water quality problems that are associated with development. Communities should carefully plan future land use and determine where this infrastructure will be needed and allowed to expand in the future and where it should be limited. Communities may also consider establishing policies that limits access to these services, thereby discouraging development in sensitive areas and preventing sprawl.

For example, Genesee County had prepared a Smart Growth Plan to ensure that the provision of public water does not result in additional new development that is inconsistent with the principles of smart growth. The Plan includes a map designating areas where development and redevelopment will be encouraged and the County will not restrict access to the County water system. New non-agricultural water hookups will be limited for development that occurs outside of designated growth areas.

3. Onsite Wastewater

Onsite wastewater systems can be one of the leading sources of water pollution and one that is rather hard to detect. Such systems tend not to be properly maintained (pumped every 2 years), replaced on a timely basis, or may be installed on sites and/or in soils that are not optimal. Failing septic systems can discharge significant pollutants, including phosphorus and nitrogen, which can impair waterways and private wells. Septic systems have a life span of 20 years if properly maintained, and only a small percentage of New York's soils are well suited for traditional systems.

Approximately 45 of the 71 watershed municipalities have onsite wastewater systems within their jurisdiction. Onsite systems are regulated by county and NYS health laws that specify installation, maintenance and inspection requirements. Municipalities should consider

creating an additional layer of regulation at the local level to ensure systems are operating properly, such as requiring regular inspections or requiring inspections prior to sale of the property. A model on-site wastewater ordinance is included in Appendix I.

4. Environmentally Sensitive Areas: Hazard Planning & Floodplain Management

Floodplains are environmentally sensitive areas that are located near or adjacent to water courses, lakes, ponds and wetlands. The intent of floodplains is to store stormwater, seasonally or during extreme/extended rain events, in other words they are meant to flood. Unfortunately, when development patterns have restricted waters access to floodplain or reduced a floodplain's storage capacity



(with infill), the risk for damage to property, infrastructure and natural areas increases.

Proper management of floodplains improves public safety and can restrict development impacts on water quality. All but three municipalities in the watershed participate in the National Flood Insurance Program, meaning they regulate development in their Special Flood Hazard Areas (floodplains). A majority of these regulations are a version of the NYS Department of Environmental Conservation's model Flood Prevention Ordinance. It is important that municipal officials, staff, and boards enforce their Flood Prevention Ordinance properly and refer to their FEMA Flood Insurance Rate Maps when making land use decisions. Flood prevention concepts should be integrated into zoning laws, subdivision and site plan review. A model floodplain regulation ordinance developed by FEMA that focuses on protecting fish habitats is provided Appendix J.

Currently, all of the watershed municipalities have been mapped by FEMA for Special Flood Hazard Areas, but many of the maps are over 30 years old and need to be redone. Communities should work with FEMA to update maps and establish base flood elevations for all floodplains to assist with regulation and enforcement. Additional details on the watersheds' flood zones are included in Chapter 2.

5. Environmentally Sensitive Areas: Wetlands and Riparian Areas

Wetlands, riparian areas and other environmentally sensitive lands neighboring water features have important functions that protect water quality. Besides being some of the most biologically diverse areas, wetlands can purify water, recharge groundwater, assist in flood control, and improve shoreline stability.

A majority of wetlands are regulated at the State and Federal level by the NYS Department of Environmental Conservation and US Army Corps of Engineers, respectively. However, there are many smaller un-mapped wetlands not protected under federal or state regulations that municipalities should document and extend protections to. It is important to preserve natural wetlands for their stormwater retention abilities. Wetlands often lessen the need (and cost) for constructed municipal or private stormwater infrastructure. Two model wetlands ordinances are included in Appendix K.

Riparian areas are those lands that are directly adjacent to water features and contribute greatly to the health and function of the water features they surround. If properly vegetated, riparian lands can stabilize banks, reduce erosion and sedimentation, lower water temperatures, slow flood waters, filter run-off, aid groundwater infiltration and support wildlife habitat. Municipalities should protect existing riparian buffers from vegetative clearing and development and re-establish riparian buffers where they have been lost. Model ordinances for riparian and shoreline protection are provided in Appendix L.

Environmental overlay districts are one of the best ways to protect wetlands and riparian buffers at the local level. However, municipalities can also add provisions to their zoning setback requirements, subdivision regulations, sediment and erosion control laws, and site plan review process to protect these areas.

6. Stormwater Management and Drainage

Municipalities are responsible for managing stormwater runoff after it leaves private property. A vast majority of stormwater infrastructure in the watershed is made up of drainage systems that direct stormwater to natural watercourses, and include such things as storm drains, ditches, culverts, catch basins, and retention ponds. If poorly designed or improperly maintained, public drainage infrastructure can cause erosion and sedimentation of waterways. Besides being a significant source of non-point source pollution, poorly designed systems also increase municipal costs for ditch and storm drain cleaning.

Approximately half of the municipal stormwater systems in the watershed are regulated as Municipal Separate Storm Sewer Systems (MS4s) under the State Pollution Discharge

Elimination System (SPDES). Presently these regulated municipalities make up 52% of the Niagara River watershed's municipalities and all participate in the WNY Stormwater Coalition, a group comprised of 40 MS4 municipalities in Erie and Niagara Counties that share resources and work together to ensure compliance with SPDES Phase II stormwater requirements.

Improving system construction, operation, and maintenance can be done by ensuring that highway/public works departments are trained in and use BMPs, such as promptly seeding newly cleaned ditches. The key is ensuring consistent use of BMPs. The *Highway Superintendent Road and Water Quality Handbook*² is a good information resource for departmental operations, as is the *Stormwater Management Gap Analysis Workbook for Local Officials*³. Municipalities should appropriate adequate resources for staff trainings on BMPs, as well as staff time towards consistent and effective enforcement.

To assist with the financial costs associated with stormwater infrastructure, municipalities can create special drainage taxing districts. Drainage districts can provide stable funding sources for the improvement, construction, operation, and maintenance of drainage structures, retention ponds, ditches and culverts. Drainage infrastructure often requires regular specialized maintenance. Developers, property owners or homeowners associations cannot always be relied on to properly maintain stormwater facilities for the long term.

7. Erosion and Sediment Control

Soil erosion affects water quality by increasing turbidity and sedimentation. Activities



Construction Erosion (Lenoir, NC)

involving land clearance and modification such as the construction of new buildings, roads and parking lots, and the clearing of land can all create soil erosion and sediment laden run-off. Sedimentation of waterways reduces channel flow and depth, creating issues with conveyance, temperature, and habitat health. Besides being a significant source of

² Produced by the NYS DEC, Finger Lakes Lake Ontario Watershed Protection Alliance, and the NYS Soil and Water Conservation Committee.

³ Produced by the NYS DEC, Division of Water.

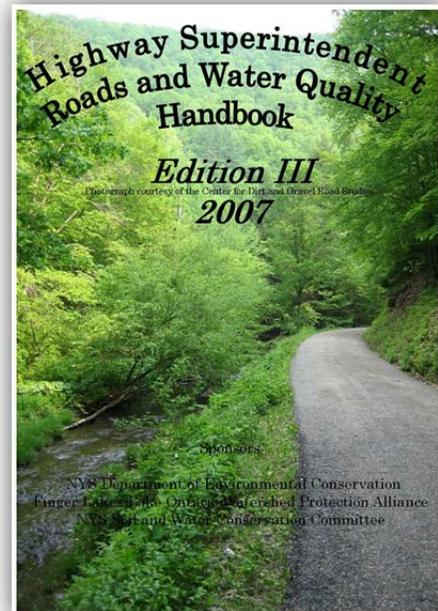
non-point source pollution, sedimentation can also increase municipal costs for maintaining stormwater infrastructure. Development in areas adjacent to water bodies with steep slopes, or highly erodible soils are of special concern as the potential for increased erosion is greater.

Municipalities should limit the impact of development activities through effective erosion and sediment control laws and proper enforcement of Stormwater Pollution Prevention Plans (SWPPPs) during and following construction activities. The NYS DEC's *Sample Local Law for Stormwater Management and Erosion and Sediment Control* can be used as a baseline model and is designed for MS4 regulated communities who need to meet Phase II SPDES requirements. Non-MS4 communities should also consider integrating the Phase II Stormwater requirements into their stormwater management laws in order to more comprehensively address stormwater issues. Model stormwater management laws are also available from the NYS DEC. Two model ordinances addressing stormwater management, sediment and erosion control are included in Appendix M.

Municipalities should also consider limiting development in areas prone to erosion, such as steep slopes (with grades higher than 15%) and highly erodible soils. These areas can be protected via special provisions in ordinances for subdivision, site plan review, or a special overlay. Model regulations addressing protection of/development on steep slopes are provided in Appendix N.

8. Road Maintenance

Maintenance of local roads has a big impact on the health of the surrounding watershed as this infrastructure is so closely integrated with stormwater drainage systems. For example, road de-icing and other winter road maintenance practices, negatively affect water quality when materials migrate to waterways via surface run-off. However by doing little things, such as pre-salting (de-icing before a storm rather than after, which can reduce the amount of deicer needed by up to 70%) or by using more sustainable and less damaging options than traditional road salt, municipalities can limit water quality impacts.



Municipalities should follow Best Management Practices as outlined in the latest version of the *Highway Superintendent Road and Water Quality Handbook* and incorporate practices

into departmental policies. Highway and public works staff should also be encouraged to attend Cornell Local Roads trainings regularly.

9. Junk Yards & Waste Storage

Junk yards and the storing of waste materials can have significant impacts on water quality as garbage, vehicles, appliances and other waste can leak hazardous liquids into the soil and groundwater. Also dumpsters and other receptacles for waste should be addressed in local regulations and detail proper siting and use for such facilities.

Municipal code should go beyond basic NYS environmental permitting, to limit junk yards to less environmentally sensitive areas or prohibit them altogether. If junk yards are addressed in municipal code, the definition of junk should be expanded to include such things as old appliances and household waste, as this provides the ability for local regulations to address materials not covered by state regulations. The NYS Department of State also has a model junk storage law that provides a good starting point for local regulation. Two additional model ordinances are provided in Appendix O.

10. Mining & Drilling (wells)

Mining and drilling operations can dramatically alter water infiltration patterns and groundwater levels, as well as create erosion and sedimentation issues for neighboring watercourses. Municipalities can limit or completely prohibit mining operations from within their jurisdiction. For municipalities who choose to allow mining operations, local knowledge and awareness of mining activities and their impacts are important for developing effective regulations. Larger mines are subject to the DEC permitting process through the Mined Land Reclamation Law (MLRL), which municipalities should participate in. Local regulations can be developed to directly regulate smaller mines (outside of state jurisdiction), and should be comprehensive enough to address both site design and operations.

Presently oil and gas well development, production, and utilization are regulated at the state and federal level. The NYS DEC also regulates wells for the underground storage of gas, salt solution mining and geothermal purposes. The State Regulated Gas Wells map located following page 2-21 depicts the current and past wells within the watershed.

11. Agriculture

Depending on the design and use of farm land, and farming practices, agriculture can have significant impacts on water quality. Agricultural runoff can carry pesticides, fertilizers, and animal wastes into neighboring waterways. This can lead to nutrient loading, increased pathogens and chemical contaminants in surface and ground waters. Farming practices can

also increase erosion of soils and sedimentation of waterways, through plowing practices and farm yard operations. Most agricultural land use issues are regulated at the state level by the Departments of Agriculture and Markets, and Environmental Conservation (DEC). The NYS DEC also oversees SPDES permitting for farming facilities identified as Concentrated Animal Feeding Operations (CAFOs). CAFO's are classified into three size levels: large, medium, and small and NYS DEC maintains a SPDES General Permit to assist in meeting US EPA's Clean Water Act requirements⁴. A map depicting the Concentrated Animal Feeding Operations within the watershed is available after page 4-30.



Under the state's SPDES General Permit coverage farms are required to develop and maintain Comprehensive Nutrient Management Plans (CNMP), which identify agricultural Best Management Practices necessary to limit impacts to water resources specific to each farm, and establish an implementation schedule. Large CAFOs must have implemented all CNMP management practices to have coverage under the

general permit, while all Medium CAFOs must have implemented all non-structural management practices identified in the plans.

Local awareness and encouragement of agricultural Best Management Practices is also helpful to address water quality issues stemming from smaller farming operations. Municipalities should encourage farmers to access the multitude of resources and voluntary programs offered by the Natural Resources Conservation Service, County Soil and Water Conservation Districts, and Cornell Small Farms Program aimed at reducing the environmental impacts of agriculture.

12. Forest Management

As with any land disturbance, timber harvesting can have significant environmental impacts. However local municipalities can regulate harvesting practices to limit erosion and sedimentation. The most comprehensive method includes adopting a timber harvesting law.

⁴ See NYS DEC State Pollution Discharge Elimination System (SPDES) General Permit for Concentrated Animal Feeding Operations (CAFOs) General Permit No. GP-0-09-001(modified 7/29/13) for state definitions of CAFOs, their size thresholds, and environmental permitting requirements.

A model timber harvesting law from the Canandaigua Watershed Council (Appendix P) provides a starting point.

Municipalities can also encourage property owners to work with County Foresters in developing Forest Stewardship Plans, which are property-specific plans to implement a sustainable harvesting schedule and logging best management practices.



13. Boating & Marinas

Recreational boating can have significant water quality impacts from facility construction, waste disposal, boat maintenance and fueling, as well as influence the spread of aquatic invasive species and shoreline erosion (wakes). Only 16 of the municipalities in the Niagara River watershed have frontage on a navigable waterway that support marinas, docks, and boat launches for larger motorized watercraft (Lake Erie, Black Rock Canal, Erie Canal, Tonawanda Creek, and Niagara River). Certain statewide boating regulations are in force along the Erie Canal, including speed limitations, vessel waste treatment and disposal restrictions (No Discharge Zone), and design and construction requirements for residential/non-commercial docks, decks, platforms and boat launches/ramps⁵.

Boat launches and marinas are generally subject to local development review processes so that there is oversight on where and how these facilities are built. However, some aspects of municipal regulation of navigable waterways are sometimes limited by state and federal regulations, depending on the water body or watercourse involved. Local zoning regulations addressing boating facilities or water-dependent uses should have specific provisions to address siting issues, and appropriately manage pollution from vessel waste and maintenance practices. Two model ordinances regarding marinas and docks are provided in Appendix Q.

In 2014, Lake Erie and the Upper Niagara River to Niagara Falls have been designated as a Vessel Waste No Discharge Zone (NDZ) by New York State, meaning it is illegal for boaters to discharge on-board sewage into Lake Erie. The designation addresses both treated and untreated sewage. Boaters must dispose of sewage at pumpout stations.

⁵ Pursuant to the NYS Law (21 NYCRR Sub-chapter D, Parts 150-156), all activities on the Erie Canal are regulated by the New York State Canal Corporation.

In-Depth Assessment of Local Planning & Development Tools

In-depth assessments were conducted for 13 municipalities in the watershed to gain a better understanding of how well local laws and practices are protecting watershed resources. The assessment process was based on the *Protecting Water Resources through Local Controls and Practices: An Assessment Manual for New York Municipalities* guide developed by the Genesee/Finger Lakes Regional Planning Council and the NYS Department of State.

The following municipalities received in-depth assessments:

- Town of Tonawanda
- City of Lackawanna
- City of Niagara Falls
- City of North Tonawanda
- Town of Sheldon
- Town of Elma
- Town of Newstead
- Town of Grand Island
- Town of Colden
- Village of Williamsville
- Town of Batavia*
- Town of Bethany*
- Town of Orangeville*

**Indicates Assessments completed by Genesee Finger Lakes Regional Planning Council during Black and Oatka Creeks watershed planning.*

For the assessment process, Riverkeeper reviewed local codes and ordinances for 151 different Best Management Practices across six different categories:

- Development
- Forestry & Agriculture
- Waterways & Wetlands
- Marinas
- Roads and Bridges
- Onsite Wastewater Treatment Systems

Local meetings were then held with municipal staff to discuss any BMPs they may be employing in local programs or undocumented departmental policies. The findings from the code review and local meetings were then combined into an assessment form⁶ and scored based on the level to which they employ the BMPs. The findings and recommendations from the assessments were then presented to each community who participated for review and discussion. Assistance was also provided by the County Planning Departments, Soil and Water Conservation Districts, and the Advisory Committee, who reviewed the assessments and assisted in drafting recommendations.

⁶ Assessment Forms (with scoring information) for each of the 13 municipalities are provided in Appendix R.

Town of Tonawanda, NY

Erie County

The Town of Tonawanda is a relatively compact suburban community located along the Niagara River. According to the 2010 Census it had a population of 73,570 within its 20.4 square miles. As a first ring suburb of the City of Buffalo it built-out long ago with residential development surrounding vibrant community centers, such as the Village of Kenmore. Historically, major industry and employment areas located along the Niagara River front, limiting opportunities for citizen access today, despite over 25,000 linear feet of water frontage.



The in-depth assessment conducted for Tonawanda found the town to be proactive and rather advanced in protecting local water resources, incorporating many Best Management Practices (BMPs) into code and departmental practices. Of the 125 BMP categories used in the assessment Tonawanda employs 74 directly through local regulations and another 23 through local practices (78% met in total)⁷. Further still, Tonawanda has implemented several green infrastructure pilot projects and requires Stormwater Pollution Prevention Plans for developments under the 1 acre threshold (certain cases).

The following town documents were reviewed for the assessment:

- *Town of Tonawanda Zoning Ordinance* (April 1982)
- *Town of Tonawanda Stormwater Management Ordinance* (November 2007)
- *Town of Tonawanda Sewers Ordinance* (March 2007)
- *Town of Tonawanda Solid Waste Management* (March 2007)
- *Town of Tonawanda Subdivision of Land Ordinance* (March 2007)
- *Town of Tonawanda Trees & Shrubs Ordinance* (May 1984)
- *Town of Tonawanda Building Code Administration Ordinance* (March 2007)
- *Town of Tonawanda Environmental Conservation Commission Ordinance* (December 1972)
- *Town of Tonawanda Model Stormwater Management Plan* (November 2010)
- *Town of Tonawanda Local Waterfront Revitalization Program Ordinance* (April 1993)
- *Town of Tonawanda Local Waterfront Revitalization Program* (September 2008)
- *Town of Tonawanda Website* (www.tonawanda.ny.us)

Meetings were held with the following Town of Tonawanda staff:

⁷ Of the 151 total BMPs in the assessment, only 125 are applicable to Tonawanda.

Jim Jones, P.E. Town Engineer
Michael Kaiser, Technical Support Department Director
James Hartz, AICP Director of Community Development
Jeff Ehlers, Youth, Parks and Recreation Department Director
Carl Heimiller, Supervising Code Enforcement Officer
Larry Hoffman, Assistant Code Enforcement Officer
Steve Tartick, Highway Department Supervisor

New & Existing Development

Tonawanda's codes currently establish a multitude of BMPs to prevent impacts to local water resources from development, many of which are model regulations⁸ developed by New York State to assist MS4 communities in meeting their Phase II SPDES requirements. Also, a majority of Tonawanda's education and outreach materials are WNY Stormwater Coalition and Erie County Water Quality Committee publications.

Overall, Tonawanda is still in the process of codifying a few BMPs into something the town can effectively require and enforce. To accomplish this, Tonawanda should consider strengthening and clarifying existing ordinances. A few examples include, creating consistent setbacks across all waterfront/shoreline areas, applying more weight to maintaining/restoring vegetation in riparian areas, developing aesthetic maintenance provisions for stormwater management systems⁹, creating specific provisions to minimize the creation of impervious surfaces, codifying the preference for native vegetation, and developing fines for violations to assist with enforcement.

Agriculture & Forestry

Not applicable, Tonawanda has no active commercial farming or silviculture occurring at this time.

Waterways & Wetlands

In addition to the Niagara River, Tonawanda Creek, Ellicott Creek, Two-mile Creek, and Rattlesnake Creek course through the town. Tonawanda's waterways and shorelines are quite protected through various provisions within stormwater management, sewer, erosion and sediment control, and zoning regulations. However, opportunities still exist to expand protections or codify existing practices, such as with increased shoreline setbacks, provisions that protect/restore riparian buffers, and regulations addressing small private docks in Tonawanda Creek.

⁸ *Sample Local Law for Stormwater Management and Erosion & Sediment Control* (March 2006), and *Model Local Law to Prohibit Illicit Discharges, Activities and Connections to Separate Storm Sewer System* (April 2006).

⁹ Tonawanda would like to extend the Stormwater Management Officer's ability to enforce maintenance of stormwater systems beyond functionality (i.e. litter, overgrown vegetation).

Tonawanda's shoreline maintenance practices focus on utilizing vegetative erosion control measures as much as possible. However, actual shoreline stabilization initiatives are few and far between, as they are triggered by significant erosion and property owner complaints. The town would benefit from proactively evaluating shoreline stability and educating property owners on maintaining riparian vegetation.

Wetlands are taken into consideration in new or substantial redevelopment, as part of town zoning, stormwater management, and subdivision codes. Tonawanda also relies on the NYS Dept. of Environmental Conservation (NYSDEC) and the Army Corps of Engineers (ACOE) to review and comment on all projects where state and federal wetlands have been identified. The town considers wetland "mitigation" on par with protection, leading to the movement and re-establishment of wetland areas around town. Prior to relocating wetlands, the town should consider adopting policies that evaluate wetlands in their capacity as local non-point source pollution control infrastructure (essentially stormwater infrastructure) within their existing location.

Marinas

For a waterfront municipality, there is little mention of marinas within the town's zoning code. This is not an oversight from the Town, but rather due to the limited ability to develop new marinas along the Niagara River, given the constraints of current and former land uses (i.e. brownfields, existing industry, limited public land, hardened shoreline). Future marina development and operations are guided by the Town of Tonawanda Local Waterfront Revitalization Program (LWRP) which ensures that actions to be undertaken, approved or funded by town, State, and federal agencies within the town's coastal area be undertaken in a manner consistent with the policies and purposes of the Town's LWRP. While the policies in the LWRP provide some protections and BMPs, the design/construction guidelines in the LWRP are not comprehensive. There are four privately owned marinas in town, but the town has no authority to enforce BMPs for operations at those marinas at this time.

As Tonawanda is looking to encourage new land uses, development, and reuse of vacant/underutilized property along the Niagara River waterfront, it is important for the Town to codify BMPs for marina design and operations.

Roads & Bridges

Tonawanda hasn't seen the development of a new road in 30 years; so much of their influence on water quality in this category relates to regular road maintenance, improvement projects, and rebuilds. Town officials are already careful to ensure construction practices follow BMPs, many of which are addressed in road construction Stormwater Pollution Prevention Plans (SWPPPs). Even

when SWPPPs are not required, town staff follows BMPs to limit erosion from roadway work. The town's Highway Department and Engineering Department utilize the *NYS Dept. of Transportation Highway Design Manual & Guidelines* which does include BMPs for roadway stormwater system design and SWPPP development. The town has also been investigating green infrastructure pilot projects for roadway generated run-off and is currently in the process of developing a recreation trail with porous pavement.

The town should consider incorporating BMPs from the *NYS Highway Superintendent Roads and Water Quality Handbook* into departmental policies, in regards to monitoring and maintenance practices for all roadway drainage structures; use of vegetation to stabilize banks and filter road run-off; and, minimizing encroachment to wetland and floodplain areas. Highway maintenance staff should also continue to participate in continuing education opportunities, (i.e. Cornell Local Roads trainings).

Onsite Wastewater Systems

Not applicable, as Tonawanda has no onsite wastewater systems.

Recommended Future Actions for the Town of Tonawanda

- Provide additional shoreline protections to the Niagara River, Two Mile Creek, Ellicott Creek, and Tonawanda Creek by increasing development setback distances and maintaining consistent setbacks throughout the entire shoreline (despite varying zoning districts).
- Develop zoning provisions that maintain and restore vegetative buffers in riparian areas, including shorelines, wetlands, floodplains, and special habitats, with preferences for native vegetation.
- Ensure proper maintenance and upkeep of private stormwater management systems by adopting codes that strengthen enforcement authority (i.e. establishing fines for violations).
- Create zoning provisions that limit the creation of impervious surfaces and encourage the use of green stormwater infrastructure (i.e. lot coverage, porous materials).
- Conduct waterfront property owner outreach and education on limiting stream bank erosion and improving stability through maintaining naturalized shorelines and riparian vegetation.
- Update zoning provisions to reflect and strengthen the policies outlined in the Town of Tonawanda's Local Waterfront Revitalization Program.
- Adopt specific ordinances to codify BMPs for marina design and on-going maintenance.

- Evaluate wetlands for their capacity as local non-point source pollution control (stormwater) infrastructure to better inform relocation or mitigation actions.
- Incorporate BMPs from the *NYS Highway Superintendent Roads and Water Quality Handbook* into Tonawanda Highway Department's Policies.
- Create regulations to oversee appropriate site design for small private docks along Tonawanda Creek.
- Encourage highway maintenance staff to continue participating in Cornell Local Roads trainings.

City of Lackawanna, NY

Lackawanna is a formerly industrial waterfront city located along Lake Erie. It is bordered by the city of Buffalo to the North, the Village of Blasdell and Town of Hamburg to the South, and the Town of West Seneca to its East. In 2010, the City had a population of 18,141 within its 6.1 square miles. Formerly the home of Bethlehem Steel, its waterfront now is home to Steel Winds, one of the largest urban wind energy projects in the world. While this project is said to be an exemplary brownfield re-use project, it also acts as a waterfront barrier for Lackawanna residents.

Erie County



Lackawanna is a member of the WNY Stormwater Coalition, and has adopted their model stormwater ordinance. Presently, Lackawanna is ahead of other older cities in their approach to stormwater control. A big focus of the city is reducing impervious surfaces and increasing green space for new development and redevelopment projects. This is done through re-greening parking lots, and restoring demolished properties to shovel ready, green sites. Their approach to reducing impervious surfaces is one that other municipalities could look to as a guide.

The challenges for Lackawanna come with its re-imagination and redevelopment of itself. There is a lot of demolition happening in the City as the economy transitions. How that demolition is done, what will be rebuilt and how it is rebuilt are the questions which need to be answered, and ensure those projects incorporate Low Impact Design and Best Management Practices in order to protect the Smokes Creek Sub-watershed.

Lackawanna's assessment yielded a score of 155 out of a total 212 points, with 79% of the Best Management Practices evaluated being either fully or partially implemented.

The following city documents were reviewed for the assessment:

- *City of Lackawanna Cluster Development Ordinance (2002)*
- *City of Lackawanna Erosion & Sediment Control Ordinance (2008)*
- *City of Lackawanna Garbage & Refuse Ordinance (1987)*
- *City of Lackawanna Hazardous Chemicals Ordinance (1987)*
- *City of Lackawanna Landscaping Ordinance (1985)*
- *City of Lackawanna Sewers Ordinance (1987)*
- *City of Lackawanna Smoke Creek Overlay District Ordinance (2002)*
- *City of Lackawanna Stormwater Management Ordinance (2008)*
- *City of Lackawanna Local Waterfront Revitalization Plan (1989)*
- *City of Lackawanna Waterfront Revitalization Program (1989)*
- *City of Lackawanna Zoning Ordinance (1963, amended in its entirety in 1985)*
- *City of Lackawanna Website (www.lackawannany.gov)*

In addition to reviewing local documents, a meeting was held with the following City of Lackawanna staff members to discuss local practices and departmental policies:

- Ralph Miranda – Development Officer
- Steve Bremer – Code Enforcement Officer/ Stormwater Officer

New & Existing Development

Lackawanna’s code addresses developmental impacts to local water resources through several adopted New York State developed model regulations. The city is focusing on reducing impervious surfaces in new development and redevelopment by requiring green space and green infrastructure to be implemented. The city has a requirement that residential properties must be at least 50% green. This has become a regulation they have had to enforce more regularly, as it was brought up in the meeting that many residents want to expand their driveways or pave their front yards in order to park more vehicles off-street.

Despite being almost entirely built out, the city currently has two new development projects. One is a subdivision on Martin Road, and abuts, without encroaching upon, a large wetland. The city evaluated the wetland and its stormwater potential before approving final subdivision plans. The second project is infill development within the First Ward.

Agriculture & Forestry

Not applicable as Lackawanna has no active commercial farming or silviculture at this time.

Waterways & Wetlands

Lackawanna has Smokes Creek running through it, which is a significant fish habitat and wildlife corridor. The city has implemented an environmental overlay around the creek, limiting development and encroachment upon the creek and surrounding habitat (within 50 ft.) With the exception of Smoke Creek and several parks, the rest of Lackawanna is built out.

The end of Smokes Creek closest to the lake has recently been dredged with the prospect of future, regular dredging to come. The creek is fed by other waterways that pass through other municipalities, often making it the “last stop” before Lake Erie. Because of this, the city often attends meetings in other municipalities regarding water issues, and adds comments to the various projects regarding the creek’s management.

There are many wetlands within the city, most bordered by cemeteries owned by the Catholic Diocese of Buffalo. Because of this, the city does not own many wetlands within its borders nor expects development encroachment on the existing wetlands. The city has no engineers on staff, so most wetland certification/evaluation is done by the city and then commented on by either a private contractor or the DEC.

Marinas

The majority of Lackawanna’s waterfront is an industrial brownfield. There are no city-owned marinas within the municipal boundaries at this time. All of the waterfront land is privately owned, including the shipping port by the former Bethlehem Steel site, which is the deepest freshwater port in the world and is periodically dredged to ensure its future viability. The lands surrounding this port have been redeveloped as an industrial park, but are currently vacant. At this time the future likelihood of a new marina establishing on Lackawanna’s waterfront is highly unlikely, however it is still a potential given the current allowed uses in the zoning code.

Roads & Bridges

The city follows and enforces many best management practices that were recommended through a previous consultant evaluation of public works departmental performance, as well as those provided in the NYS Highway Superintendent’s Roads and Water Quality Handbook. The city also performs regular and thorough inspections of the streets and bridges throughout the year, as there have been issues with city bridges in the past.

Onsite Wastewater Systems

There are no onsite wastewater systems within the city. The city maintains a separate storm water and sewer systems that they currently have no issues with.

Recommended Future Actions for the City of Lackawanna

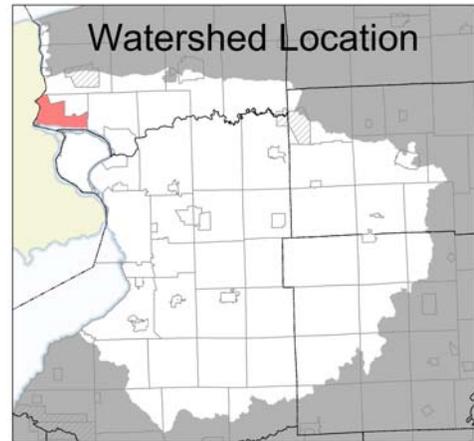
- Extend the buffer distance of the Environmental Overlay surrounding Smokes Creek from 50' to a minimum of 100' and add provisions limiting the removal of established shoreline (riparian) vegetation within a portion of the buffer zone.
- Develop zoning provisions that maintain and restore vegetative buffers in riparian areas, including shorelines, wetlands, floodplains, and special habitats, with preferences for native vegetation.
- Incorporate principles of Low Impact Design into zoning regulations and train municipal boards and staff on conducting site plan review with a lens towards water quality.
- Create zoning provisions that limit the creation of impervious surfaces and encourage the use of green stormwater infrastructure (i.e. lot coverage, porous materials).
- Encourage highway maintenance staff to participate in Cornell Local Roads trainings.
- Adopt specific ordinances to codify BMPs for marina design and on-going maintenance or remove marina's as a permitted development within city zoning ordinances.
- Create educational pamphlets for landowners along Smokes Creek to outline best management practices to reduce erosion in the creek.
- Collaborate with the Catholic Diocese on the management of their land surrounding Smokes Creek and federal and state wetlands, especially in regards to mowing practices, riparian vegetation protection and maintenance, high erosion areas, and fertilizer application practices.
- Outline the restoration of Smokes Creek's shorelines, meander, wetlands, and floodplains for the creek's portion within the former Bethlehem Steel site, as part of the Lackawanna Brownfield Opportunity Area Planning effort.
- Request additional studies from Army Corp of Engineers regarding Smokes Creek's erosion issues.

City of Niagara Falls, NY

Erie County

Niagara Falls is a city in Niagara County, New York across the Niagara River from the city of Niagara Falls, Ontario. The city is built along the upper and lower sections of the Niagara River. The city hosts the US side of the Niagara Falls waterfall, where the river flows over the escarpment, and downstream along the Niagara Gorge.

As of the 2010 census, the city had a total population of 50,193, down from the 55,593 recorded in the 2000 census. The City has had economic difficulty for decades with the loss of industry and high unemployment, leaving vast swaths of vacant industrial land and brownfields. The City has a fractured urban core and decayed urban neighborhoods. As the economy brightens the City is pursuing strategies to become a more compact, attractive and manageable. They plan to revitalize communities and make living in the core city more attractive by committing to sustained small-scale incremental change. This gives the city the opportunity to guide new in-fill development that is sustainable and supporting of water and air quality.



As an older city Niagara Falls's ordinances have been updated in a piecemeal fashion over the years. The city would really benefit from a complete rewrite of their code to make it more user friendly and incorporate newer zoning tools to guide the type of redevelopment the city desires. Despite their ordinances, the city has continued to work on water quality related initiatives over the years. Unfortunately only some of these initiatives have remained or are implemented due to financial constraints, limited city staff, and volunteer burnout. Still the city's Planning Department does attempt to implement green infrastructure, remove impervious cover, restore habitat and utilize native plantings when the opportunity arises with public and private development projects.

The city received a score of 77 out of a total of 238 possible points. This is mostly due to the lack of any marina regulations and provisions that specifically address riparian buffer, floodplain and wetland protections.

The following city documents were reviewed for the assessment:

- *City of Niagara Falls Comprehensive Plan (2009)*
- *City of Niagara Falls Zoning Code (2009)*
- *City of Niagara Falls website (www.niagarafallsusa.org)*

In Addition to reviewing local documents, a meeting was held with the following City of Niagara Falls staff members to discuss local practices and departmental policies:

- Tom DeSantis, Director of Planning and Economic Development
- Alan Nusbaum, Environmental/GIS Coordinator
- James Bragg, Planner II/Historic Preservation Specialist

New & Existing Development

The city does have numerous vacant properties and former industrial land. In some areas of the city in-fill development is occurring here and there, it is extremely limited and concentrated in the downtown tourist areas. For stormwater BMPs, the city defers to the Niagara Falls Water Board, which is a private utility that runs the city's water and sewer systems. Engineers review developments and issue permits in accordance with MS4 – SPDES Phase II Stormwater Regulations.

Beside stormwater oversight during construction, very few BMPs are employed during the review of proposed developments. For environmental assessment of proposed developments city staff indicated they rely on the State Environmental Quality Review Act (SEQRA) to identify environmental impacts and address them during design review and permitting. The city has adopted separate more stringent Type I SEQRA Actions, which allow development projects to trigger environmental review more often and at lower thresholds than is typically seen around in other municipalities. Still the city may benefit from improved zoning regulations that clearly outline the type of environmental protections they are looking for rather than rely on the SEQRA process to better streamline development review and permitting processes.

As mentioned previously, the city would benefit from developing formal provisions in ordinances to employ water quality BMPs during redevelopment, such as performance standards and incentive zoning.

Agriculture & Forestry

Not applicable, as there is no agriculture or forestry in the city.

Waterways & Wetlands

While the City of Niagara Falls has limited ability to regulate the state lands along the Niagara River shoreline, Cayuga Creek, Little Niagara River and Gill Creek are prominent waterways that they do have jurisdiction over. Cayuga Creek (Niagara County) is in need of more stringent protections, as it has flooding issues, wetland encroachment, erosion and sedimentation problems, and water quality issues stemming from adverse adjacent land uses. Gill Creek, up to the Hyde Park Dam, has been recently added to the Niagara River Area of Concern and has numerous issues associated with flooding and legacy contamination. Both waterways are in need of complete restoration plans to improve function, restore habitat and water quality, and limit impacts to city infrastructure and private property.

For Little Niagara River and Cayuga Island, issues remain on private waterfront properties regarding private docks, the removal of riparian vegetation, and fertilizer and pesticide usage.

Unfortunately, the city's zoning code contains little mention of specifically protecting streams or managing stormwater in a way that is conscious of the issues present at Little Niagara River, Cayuga and Gill Creeks. Language that does exist is general and vague, with few enforceable specifics. Again the city referenced a reliance on the SEQRA process to identify and mitigate environmental impacts to the creek systems. Unfortunately, this approach doesn't seem to have been beneficial for the creek corridors to-date.

A Waterfront Overlay District does exist in Niagara Falls Zoning Ordinance, but it is structured to regulate scenic views only.

The City does regulate development within floodplains according to the FEMA National Flood Insurance Rate Program. Regulations prohibit filling and certain projects, but development and expansion of floodplain structures is still allowed.

Marinas

Marinas, private docking facilities, boat ramps and boat lifts are a permitted use in the LaSalle sub-district of the Watershed overlay district with no additional provisions dictating BMPs for design, operations, and maintenance. There is one small marina on Little Niagara River, but it has been out of operation for some time. Many residents in this area do have private docks, which the city relies on NYS DEC and the U.S. Army Corp of Engineers to regulate. For most of the city's riverfront the water flow is too fast for boats to navigate safely and a majority of the land is owned by New York State.

Roads & Bridges

Niagara Falls has built no new roads in quite a while. While it's not outlined in code, the Public Works Department does implement many of the BMPs associated with road and bridge maintenance through the Stormwater Regulations, which are similar to the model developed by Erie County and promoted by the WNY Stormwater Coalition. The city should improve upon BMP training opportunities for Public Works Department staff, as part of the Cornell Local Roads Program.

Onsite Wastewater System

The city is entirely sewerred. There are no known onsite septic systems within the city limits. Private septic is no longer allowed.

Recommended Future Actions for the City of Niagara Falls:

- Identify vacant and underutilized land in the City to reclaim and restore as buffers for urban creek systems, and incorporate the re-creation of wetlands, floodplains, and greenways.

- Upgrade the City’s zoning code to implement sustainable practices that direct redevelopment away from the city’s brownfield past and towards a more environmental “green city” image.
- Work with NYS Parks Department to upgrade habitat along the Niagara River Shoreline as the Robert Moses Parkway is downgraded.
- Coordinate with NYS Parks Department to naturalize the Niagara River shoreline and Niagara Gorge with native plantings.
- Collaborate with the State of New York to implement a local ordinance consistency review for any state actions taken on waterfront lands within the Niagara Falls Coastal Zone.
- Regulate the design of private docks in accordance with BMPs.
- Implement marina design and maintenance BMPs into the waterfront overlay. Legally the Township has jurisdiction 1100’ out into the river and can pursue their regulatory authority.
- Develop zoning Conservation District overlays for Little Niagara River, Cayuga Creek and Gill Creek to preserve and protect the creek corridors, implement riparian buffers and habitat protection.
- Incorporate performance standards or stricter regulations into zoning and site plan review ordinances in order to encourage low impact design, green infrastructure, and reduction of impervious cover in private development.
- Revisit the City’s Local Waterfront Revitalization Planning process to address the changing waterfront and better guide its development.
- Train local boards and officials on low impact development and other green methods of development that protect water quality.
- Document green initiatives and practices initiated by municipal staff into formal program documents and policies in order to retain this departmental knowledge and efforts as staff change-over occurs.
- Develop outreach and educational materials for waterfront landowners that addresses better yard management practices, riparian buffer design, and how best to mitigate shoreline erosion.
- Strengthen zoning provisions that maintain and restore vegetative buffers in riparian areas, including shorelines, wetlands, floodplains, and special habitats, with preferences for native vegetation.
- Encourage highway maintenance staff to participate in Cornell Local Roads trainings.
- Add zoning provisions to protect wetlands during site plan review.

- Provide additional shoreline protections to the Niagara River, Little Niagara River and Gill Creek by increasing development setback distances, and include vegetation requirements.
- Collaborate with Niagara County Department of Economic Development (planning arm) to work with upstream communities and effectively plan for the community resiliency in regards to flooding issues.

City of North Tonawanda, NY

Niagara County

The City of North Tonawanda is located along the Niagara River at the southwestern corner of Niagara County. North Tonawanda is fortunate to have an abundance of waterfront property, with Niagara River and Tonawanda Creek forming the west and south/east boundaries of the city. These waterways are designated as navigable, as Tonawanda Creek, in this portion, serves as the Erie Canal. In 2010 the city had a population of 31,568 according to the 2010 US Census. The small city is reinventing itself from a former industrial hub to a destination city, much like Niagara of the Lake in Ontario, Canada.



North Tonawanda is working on several green infrastructure projects. One of them is the installation of rain gardens in city-owned parking lots. Through these gardens the city is filtering and detaining water before expelling it into the river. Another project is through a green infrastructure grant totaling \$600,000. In conjunction with Bergmann Associates, the city will eliminate planter boxes on Webster Street and install pre-fabricated filter units where trees used to be. These units would filter approximately a 1,100 foot stretch that is currently impervious. Finally the city hopes to install stone filter strips at a public marina to filter water before entering the river. This would be done with grant money from a federal boat infrastructure program.

The city has major flooding issues stemming from their downstream location. Delayed flooding is occurring more and more upstream development occurs in the towns of Wheatfield, Pendleton, Lockport, Newstead, Amherst and Clarence.

The city's assessment yielded a score of 153 out of a possible 268 points. Much of this was due to the limited number of marina-related BMPs that are codified or practiced, despite 6 city-owned marinas.

These main documents published by the city were reviewed for this assessment:

- *The City of North Tonawanda Boat Docks Ordinance*
- *The City of North Tonawanda Comprehensive Plan (2008)*
- *The City of North Tonawanda Dogs Ordinance*
- *The City of North Tonawanda Erosion & Sediment Control Ordinance*
- *The City of North Tonawanda Local Waterfront Revitalization Program (1988)*
- *The City of North Tonawanda Site Development Ordinance*
- *The City of North Tonawanda Solid Waste Ordinance*
- *The City of North Tonawanda Stormwater Management Ordinance*
- *The City of North Tonawanda Storm Sewers Ordinance*
- *The City of North Tonawanda Tree Ordinance*
- *The City of North Tonawanda Waterfront District Ordinance*
- *The City of North Tonawanda Wetlands Ordinance*
- *The City of North Tonawanda zoning ordinance (2002 Revisions 2008)*

In addition, personal interviews were conducted with:

- Dale Marshall – City Engineer/Stormwater Management Officer
- Richard Tindell – Community Development Director
- Jaime Davidson – PE at Wendel
- Robert Welch – Executive Assistant to Mayor

Existing and New Development

North Tonawanda is primarily built out, with the potential for only about 400 new builds within the city limits. Many of the existing and new development Best Management Practices are codified via the City's Grading and Stormwater Regulations that were developed in the 1970's and updated to reflect the model stormwater ordinance developed by Erie County.

Much of the new development occurring is single family residential located on former agricultural fields, as well as waterfront condos located on former industrial land. Site development and stormwater regulations do aim to preserve natural water features, but provisions could be clearer and/or structured as performance standards. The City's code also allows for cluster development, which is a focus in the waterfront condo areas.

The city is attempting to direct more stormwater into ground infiltration through green infrastructure projects on city land as a means to lessen the impact on their combined sewer system. The city's sewers are only combined in a small portion in the older urban waterfront areas. Limiting impervious cover is mostly addressed in code through new development (only 25% of a yard can be

covered with built structures). Town officials indicated it is difficult to implement porous infrastructure as the soils in North Tonawanda are extremely hydric.

Agriculture & Forestry

Not applicable, the City of North Tonawanda no longer has forestry or agricultural land uses.

Waterways & Wetlands

North Tonawanda addresses wetlands and their functions in an extremely limited manner through their Grading and Stormwater ordinance and Freshwater Wetland ordinance. Both of these ordinances are quite limited in their approach to wetlands. For stormwater purposes, development review, and subdivision the city primarily defers to state and federal regulations regarding wetlands. The Freshwater Wetlands ordinance gives authority to the City Council regarding wetland protections, but has no specific provisions included with it, as if it's an incomplete ordinance that would be clarified at a later date.

Waterway protections are also extremely limited in town ordinances and officials did not indicate that special consideration was given by city boards during development review. The bulk of the BMPs are outlined in Grading and Stormwater Management terms and have limited impact in protecting riparian buffers and existing vegetation. This might be due to the fact that much of the waterfront land located along Tonawanda Creek is owned and managed by the Canal Corporation and development in these areas requires a permit from the State. The Niagara River is not subject to Canal Corporation jurisdiction however.

Marinas

North Tonawanda has many marinas along its waterfront; six are owned and run by the City itself. Despite having a very active marina and docking waterfront, the City does not currently regulate marinas. Marinas are a permitted use in the city's zoning code with no additional provisions dictating BMPs for design, operations, and maintenance. At the city owned marinas only a handful of the maintenance and operation BMPs are implemented. The City indicated it hopes to implement more fisherman amenities and education in the future at city owned marinas.

Private Boat Docks are regulated in the zoning code; however BMPs addressing their design, operation and maintenance are extremely limited.

North Tonawanda's marinas and waterfront are a large component of the City's efforts to reinvent itself. As it develops waterfront and water dependent uses along the Niagara River and the Erie Canal it is important for the City to codify BMPs for marina design and operations. This should be part of

the City Marina Study for the rehabilitation of the City Marina on River Road. Clean Marina programs have been proven to bring economic benefits and should be pursued.

Roads & Bridges

North Tonawanda has had no new roads built in quite a while. While it's not outlined in code, the Public Works Department does implement almost all of the BMPs associated with road and bridge maintenance.

Onsite Wastewater System

The city is entirely sewered, through both a separate system and a combined system (older downtown area). There is only one known onsite septic system within the city limits. Private septic is no longer allowed and is abated when found.

Recommended Future Actions for the City of North Tonawanda

- Implement many recommendations from existing planning documents that aim to protect water quality and ensure waterfront development occurs appropriately.
- Update the City's Local Waterfront Revitalization Plan to address the changing waterfront and better guide its development.
- Train local boards and officials on low impact development and other green methods of development that protect water quality.
- Document green initiatives and practices initiated by municipal staff into formal program documents and policies in order to retain this departmental knowledge and efforts as staff change-over occurs.
- Develop outreach and educational materials for waterfront landowners that addresses better yard management practices, riparian buffer design, and how best to mitigate shoreline erosion.
- Strengthen zoning provisions that maintain and restore vegetative buffers in riparian areas, including shorelines, wetlands, floodplains, and special habitats, with preferences for native vegetation.
- Incorporate performance standards or stricter regulations into zoning and site plan review ordinances in order to encourage low impact design, green infrastructure, and reduction of impervious cover in private development.
- Adopt a Clean Marina citizen education program to improve management of private marinas and docking facilities.

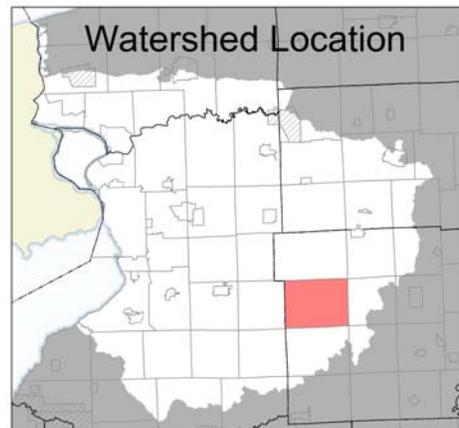
- Implement marina design and maintenance BMPs into the waterfront overlay. Legally the Township has jurisdiction 1100' out into the river and can pursue their regulatory authority.
- Create regulations to oversee appropriate site design for small private docks along Tonawanda Creek.
- Encourage highway maintenance staff to continue participating in Cornell Local Roads trainings.
- Add provisions to the Freshwater Wetlands ordinance that specify in what capacity the City Council will carry out the intent of this regulation. Cross reference this statute to other areas of the zoning code to better protect wetlands.
- Provide additional shoreline protections to the Niagara River, Tonawanda Creek, and Tonawanda Island by increasing development setback distances and maintaining consistent setbacks throughout the entire shoreline (despite varying zoning districts).
- Collaborate with Niagara County Department of Economic Development (planning arm) to work with upstream communities and effectively plan for the community resiliency in regards to flooding issues.

Town of Sheldon, NY

According to the United States Census Bureau, the Town of Sheldon has a total area of 47.4 square miles of which approximately 0.06% is water. The west town line is the border of Erie County, New York. U.S. Route 20A passes across the north part of the town and intersects New York State Route 77 at Persons Corners. It is a rural agricultural community that strives to maintain its rural character. There are 834 residential properties and 257 agricultural properties in the Town of Sheldon.

It is predominantly flat upland with steep ravines along the creeks. Cayuga Creek's headwaters and a portion of Upper Tonawanda Creek's headwaters are located in town. Cayuga Creek flows northward through the east part of the town and the Buffalo Creek flows through the southwest part. It covers three sub-watersheds; Cayuga Creek in the center, Buffalo Creek to the west and the Upper Tonawanda to the east.

Wyoming County



Wind turbines and energy conversion has become important to the Town of Sheldon. The Town Board has not levied any Town taxes since 2007. Revenue received from the wind farms has covered all costs of the yearly Town budget.

The following city documents were reviewed for the assessment:

- *Town of Sheldon Zoning Ordinance (2009)*
- *Town of Sheldon Website (www.townofsheldon.com)*
- *Town of Sheldon, NY Comprehensive Plan (2001)*

A meeting was not obtained with Town of Sheldon staff members to discuss local practices and departmental policies. The assessment thus far is based solely on town codes. Sheldon scored 37 points out of a total of 100 possible points for the assessment.

New & Existing Development

The Town of Sheldon is predominantly agricultural; any new development occurring in town is usually related to agriculture or residential development. Subdivisions are rare. The zoning ordinance was written to enhance the rural character and appearance of the Town of Sheldon as a whole. The Town is currently conducting a survey on its website to update the comprehensive plan. Town zoning supports agricultural land uses. It does use Mixed-Use Rural Hamlet districts to guide density development to existing unincorporated locations that have enough of a history to have a name. These districts have design guidelines which encourage development to revitalize old housing stock. To preserve green space, only ten (10) new residential dwelling building permits will be issued per calendar year.

The Comprehensive plan states the Town's goals to preserve and protect the Town's important natural areas and resources including quality of surface water, ground water and air. Some of this is embedded in their code, but some of the strategies have yet to be enacted as best practices or lack specificity in code.

Agriculture & Forestry

The code protects farming, farming-related land uses, and economic activities with a Right to Farm Law. It does not however have any agriculture related BMPs codified.

Forestry operations are possible as there are predominant forested lands in the town; however no regulations exist to protect large forest tracts. This is concerning since Sheldon hosts headwater forests for both the Cayuga Creek and Upper Tonawanda Creek Sub-watersheds.

Waterways & Wetlands

Protections for rivers, creeks and wetlands are limited in Sheldon's code. Currently buffers are encouraged for landscaping and visual purposes, not to protect water quality. The Comprehensive plan requires vegetative buffers along all watercourses in conservation overlays, but lacks specific enactment in code.

Site plan review provisions do aim to protect natural areas, including waterways, riparian buffers, and wetlands. Special Development provisions also identify steep slopes and erosion areas as elements to consider. Special Use permits are also required for some development activities that have the potential to negatively impact waterways and wetlands, such as excavation and the use of wetlands for stormwater retention.

Roads & Bridges

It is not clear from local laws whether Best Management Practices are followed for roadway design, or highway and bridge maintenance in the Town of Sheldon.

Onsite Wastewater Systems

The plan encourages the Town to investigate sewer and water systems in hamlets to spur development in those districts. It seems unlikely that the Town will get public water and sewer service in the traditional sense however. More likely is the installation of a small sewage system that would serve 30-50 residents at most. If installed, sewer systems would most likely not expand beyond existing hamlets.

Similar to other municipalities, on-site septic systems are minimally regulated. This is due to many communities relying on the County Health Departments to oversee proper septic operations through the property transfer process.

Recommended Future Actions for the Town of Sheldon

- Complete an inventory of natural resources then identify and prioritize them for protection. Priority should be given to the major creek/tributary corridors. The creeks contribute to the rural character of the area, provide open space corridors for wildlife, and are connective features linking the region.
- Develop zoning Conservation District overlays for Buffalo and Cayuga Creeks and tributaries to preserve and protect headwater forests, the creek corridors, implement riparian buffers and habitat protection.

- Create stormwater, erosion and sedimentation regulations, which due to the topographic character of the area would be particularly beneficial.
- Purchase or place permanent easements on headwater forests.
- Educate officials and the public about BMPs and wetland protection programs.
- Rather than exempting agricultural land from regulations the town should be forward thinking in educating and promoting BMPs as a means of promoting farming. They can sell themselves as a pro-active farming township.
- Implement findings from the Wyoming County Agricultural and Farmland Protection Plan, such as conducting workshops about conservation options for rural landowners, and purchasing Development Rights in priority agricultural areas which are experiencing the most developmental pressure.
- Develop public education materials about proper maintenance of on-site sanitary waste disposal and distribute with town mailings.
- Strengthen zoning regulations that protect wetlands from development encroachment. Add provisions that implement Best Management Practices.
- Promote agricultural Best Management Practices through educational brochures and collaborative workshops with County Soil & Water professionals.
- Develop regulations to address BMP forestry practices, site clearing, and limit vegetation removal along creeks, wetlands, and in floodplains.
- Train highway staff on BMPs for road, roadside ditch and culvert design and maintenance.

Town of Elma, NY

Elma is located in the south central part of Erie County. According to the 2010 US Census it had 11,317 residents spread over the Town's approximately 36 square miles. Elma Central is a small hamlet in the center of the township. Most of the town is zoned for agricultural and low density residential with a few typically suburban subdivisions. Commercial development is dispersed around the town and there are several large manufacturing, research and assembly plants. While farming has been the backbone of the community, agriculture, horse farms, nurseries and greenhouse operations are becoming more prevalent.

Erie County



The East Aurora Expressway runs northwest/southeast across the township with Buffalo Creek to the northeast and Cazenovia creek to the southwest. The Town spans the Buffalo Creek Sub-watershed. The northwest corner of the town falls into the Cayuga Creek Sub-watershed and the southwest in the Buffalo River Sub-watershed.

In 2010 the Town of Elma, with the assistance of a Farmland Protection Implementation Grant from the New York State Department of Agriculture and Markets (NYSDAM) and project coordination by the Western New York Land Conservancy, purchased their first permanent conservation easement on a 61 acre property, thereby extinguishing subdivision and development pressures forever on the property. The NYSDAM Farmland Protection Implementation Grants program is an extremely important land protection tool that provides for permanent protection as well as the assurance that farm parcels selected will remain in active farming for the future. Funding from this State grant as well as a contributing portion from the Town of Elma provided for the purchase of development rights.

The following city documents were reviewed for the assessment:

- *Town of Elma Dogs Ordinance (1974)*
- *Town of Elma Filling & Grading Ordinance (2001)*
- *Town of Elma Flood Damage Prevention Ordinance*
- *Town of Elma MS4 Requirements Local Law (2007)*
- *Town of Elma Sewers Ordinance (2005)*
- *Town of Elma Solid Waste Ordinance (1992)*
- *Town of Elma Stormwater Management Local Law (2012)*
- *Town of Elma Subdivision of Land Ordinance (1989)*
- *Town of Elma Zoning Ordinance (1950 – with amendments)*
- *Town of Elma Website (www.elmanewyork.com)*
- *Draft Regional Comprehensive Plan and Draft Generic Environmental Impact Statement (2002) Town of Aurora, Elma, Holland, Wales & Village of East Aurora*

Buffalo Niagara Riverkeeper was not able to obtain a meeting with Town of Elma to discuss local practices and departmental policies. The following assessment is based solely on town codes.

New & Existing Development

According to the town website, preserving Elma's rural character is a high priority. However, it is already quite suburbanized with a mix of rural and suburban development. It is under great development pressures for residential sprawl from Lancaster to the north. It is also under commercial

pressure from West Seneca to the west. The Town has codified many BMPs regarding new development, how often they are employed for development review is not known at this time.

Majority of Elma's new development includes the conversion of former agricultural lands to single family residential. Because of this primary development style, town ordinances and development review processes should look to implement low impact design and other standards that protect water quality and living infrastructure.

The town recently amended its commercial zoning and created an Elma Center overlay to improve the quality of development for the Elma center hamlet area. The overlay includes design guidelines to create a pedestrian friendly urban environment. Presently the rate of development has been restricted by the extent of public sewer and water infrastructure in town, which is a tactic the town should maintain as a tool to limit development pressures.

Elma also has a Conservation Board whose duties include advising the Town Board on matters affecting the preservation, development and use of the natural and man-made features in town.

Agriculture & Forestry

Elma is a Right-to-Farm community yet there is little agricultural regulation within their zoning code, such as farm waste management and agricultural best management practices. All agricultural activity is exempt from stormwater management regulations.

Forestry operations are not regulated in town ordinances.

Waterways & Wetlands

Wetlands and waterway protections are only minimally addressed in town ordinances, specifically the stormwater management ordinance (Erie County Model) and flood regulations. No other ordinances offer protections of local waterways and wetlands.

Marinas

Not applicable, as Elma is a land locked community with no navigable waterways.

Roads & Bridges

Not many of Elma's BMPs are codified and it is not known how many may be practiced by the town. Planning documents do note that Elma wants to limit growth through limitations on new roads; this would provide benefits for limiting additional impervious cover in town.

Onsite Wastewater Systems

While Elma has a large portion of town with private septic systems and codes currently reflect some additional oversight of on-site systems. Erie County Health Department also oversees the functionality of on-site septic systems upon property transfer. Any property with access to municipal sewer systems is required to connect.

Recommended Future Actions for the Town of Elma

- Develop zoning Conservation District Overlays for Buffalo Creek, Pond Brook, Cazenovia Creek and their tributaries to preserve and protect the creek corridors, implement riparian buffers and habitat protection, not only to protect water quality, but to inhibit sprawl.
- Educate officials and the public with wetland protection programs and best management practices to protect water quality with stronger drainage requirements, and public education about proper maintenance of on-site sanitary waste disposal.
- Complete inventories of natural resources that identify and prioritize them for protection. Priority should be given to the major creek corridors. The creeks contribute to the rural character of the area, provide open space corridors for wildlife, and are connective features linking the region's living infrastructure.
- Implement site clearing standards, wetland protection regulations, and erosion and sediment control measures.
- Partner with the Agricultural and Farmland Protection Programs (NYSDAM) to conduct workshops about conservation options for rural landowners, and purchasing development rights in priority agricultural areas, which are experiencing the most developmental pressure.
- Incorporate provisions for agricultural operations into stormwater regulations.
- Develop education materials that promote BMPs as a means of promoting farming. They can sell themselves as a pro-active farming Township.
- Train local staff and board members on reviewing developments from a water quality and habitat protection lens.
- Conduct regular inventories of culverts and stormwater infrastructure to identify issues earlier, when they may still be functional but still impact water quality and habitat.
- Incorporate performance standards or stricter regulations into zoning and site plan review ordinances in order to encourage low impact design, green infrastructure, and reduction of impervious cover in private development.

Town of Newstead, NY

Erie County

The Town of Newstead is located in the northeastern corner of Erie County in Western New York. The Town is a rural community with 50% of the area devoted to agriculture. According to the US Census the population in 2010 was 8,594. The town has struggled with its identity and is attempting to maintain its rural agricultural heritage. This agriculture characteristic is the Town's basic heritage going back to its founding in 1823.



The central business district and Town government headquarters are located in the Village of Akron, located in the eastern central part of the Town. The development pressure is moving outward from the neighboring town of Clarence and along Route 5 from the south west. A portion of the Tonawanda Indian Reservation is in the northeastern corner of the Town. The Town is physically split in two by a unique geographical feature, the Onondaga Escarpment.

The Town of Newstead's northern boundary is Tonawanda Creek and it falls within four sub-watersheds; the Middle and Lower Tonawanda Creeks, Murder Creek, and Ellicott creek in the south. Murder Creek falls over the escarpment at Akron Falls, just southeast of the Village of Akron. There are significant state and federal wetlands throughout the town. A large portion of the northern section of Newstead (adjacent to Tonawanda Creek) is located in the 100 year floodplain according to FEMA Flood Insurance Rate Maps.

The following town documents were reviewed for the assessment:

- *Town of Newstead Zoning Ordinance (1988)*
- *Town of Newstead Stormwater Solid Waste Law (1996)*
- *Town of Newstead Right to Farm Law (2008)*
- *Town of Newstead Wastewater Treatment Law (1999)*
- *Town of Newstead Stormwater Management and Erosion Control Law (1996)*
- *FEMA Flood Insurance Rate Maps No. 360251 0001-0030*
- *Town of Newstead Website (www.tonawanda.ny.us)*
- *Town of Newstead and Village of Akron Combined Comprehensive Master Plan (2002)*

A meeting has not been held with Town of Newstead staff to discuss local practices and departmental policies. The assessment is based solely on town codes at this time and resulted in a score of 37 points out of a total of 98. Only 17 Best Management Practices are outlined in the town ordinances.

New & Existing Development

Newstead sees itself as a rural agricultural town but is under pressure for new residential and commercial development. It does have subdivision and zoning ordinances in effect. The majority of land area on the zoning map falls into the rural agriculture zoning district. Very few BMPs have been codified into the zoning ordinance. Without many of the best management practices relative to development codified, the Town of Newstead has limited authority to guide development that is sustainable and protective of water resources.

The Town is now predominately watered thru Erie County Water Authority, with only a few pocket areas still left to be developed with water. This is unfortunate, given the level of sprawl already existent within the County. Direct highway connections to urban employment areas, plus an availability of water and sewer resources, will almost always drive sprawling development patterns. The structure of Newstead's zoning code will become even more essential as development pressure continues into the future.

The town does have a Conservation Advisory Committee whose role is to advise the Town Board on important natural features and unique biotic communities. The extent of the Committee's influence on town development is not known. Presently, subdivision regulations include provisions to limit impacts on natural features and sensitive environmental conditions. Furthermore, the regulations directly call out for a subdivision lot layout to "avoid adversely affecting groundwater and aquifer recharge; to reduce cut and fill; to avoid unnecessary impervious cover; to prevent flooding;..."

Newstead does employ a Certificate of Occupancy requirement, which allows for follow-up and enforcement actions if developments are not actually built to their permit's standards. More of the watershed's towns should utilize Certificates of Occupancy.

Agriculture & Forestry

Newstead has Right-to-Farm law. Its educational brochure on the website is not about agricultural BMPs, but focuses on the rights that farmers have. Agriculture is supported as a land use in multiple areas of the municipal code. However, several areas of the code either exempt agricultural activities (stormwater management and erosion) or uphold that agriculture activities will not be considered nuisance activities.

Forestry activities are not regulated in Newstead's ordinances.

Waterways, Wetlands and Riparian Area Waterways

Much of the northern part of the township is in Tonawanda Creek's floodplain and there are many wetlands throughout. Newstead's ordinances do not directly protect waterways, wetlands, and

riparian lands. There are provisions that reference natural areas, waterways and wetlands, however the extent these are applied to protect water quality in site plan review or subdivision is not known without discussions with the Planning Board, Town Council, and Conservation Advisory Committee. Newstead does employ flood regulations and flags lots that are not suitable for development based on wetland and flooding conditions. The town's website warns citizens to check for floodplains and wetlands prior to buying or planning any development.

Roads, Bridges & Public Rights of Way

Newstead is not currently an MS4 designated community, so it is not held to the higher standards of stormwater and MS4 infrastructure management by New York State at this time. The Town of Newstead owns and maintains approximately 30.8 lane miles of a two lane highway. Roadway widths vary from 18 to 24 feet with 2 to 4 foot wide shoulders. The Town has several roads maintained by Erie County and New York State. They plow several roads for the County in the winter season. The Highway Department helps in the town-wide ditching program. Maintaining ditches is difficult due to lack of easements on private property. Newstead's Highway Department may be implementing a number of Best Management Practices related to road and right-of-way infrastructure even though these practices are not outlined in ordinances.

Onsite Wastewater Treatment Systems

Much of the Town does not have public sewers; however the town has created a small Town Sewer District to promote industry in the township that connects to the Village of Akron wastewater treatment plant. The lack of sewers does assist in controlling development.

On-site septic systems are not regulated in town ordinances beyond provisions in the Stormwater and Erosion regulations that make it illegal for septic systems to connect/discharge to stormwater systems. Erie County Department of Health does oversee septic system testing and permitting when properties are transferred.

Recommended for Future Actions for the Town of Newstead

- Inventory all natural resources to identify and prioritize them for protection. Priority should be given to the major creek corridors. The creeks contribute to the rural character of the area, provide open space corridors for wildlife, and are connective features linking the region.
- Continue purchasing vacant land and abandoned railroad right-of-ways as a means to preserve sensitive natural areas that support water quality.

- Develop zoning Conservation District Overlays for the creeks and wetlands to preserve and protect the creek corridors, implement riparian buffers and habitat protection, not only to protect water quality, but to inhibit sprawl in these areas.
- Amend zoning regulations or produce a site design guidelines publication to more clearly guide development towards preferred designs (i.e. Low Impact Development, AEM, etc.)
- Educate officials and the public with wetland protection programs and best management practices to protect water quality such as stronger drainage requirements.
- Develop public education materials about proper maintenance of on-site sanitary waste disposal and distribute with town mailings.
- Collaborate with Erie County Soil and Water to identify high erosion and sedimentation areas and implement maintenance and operation plans to limit further erosion.
- Strengthen zoning regulations that protect wetlands from development encroachment. Add provisions that implement Best Management Practices.
- Collaborate with the Agricultural and Farmland Protection Program (NYSDAM) such as conducting workshops about conservation options for rural landowners and purchasing development rights in priority agricultural areas which are experiencing the most developmental pressure.
- Promote agricultural Best Management Practices through educational brochures and collaborative workshops with County Soil & Water professionals.
- Develop regulations to address BMP forestry practices, site clearing, and limit vegetation removal along creeks, wetlands, and in floodplains.

Town of Grand Island, NY

Erie County

The town is located entirely on the island of Grand Island in the Niagara River. The Niagara River splits into two parts at the south end of the island and rejoins at the northwest end, about three miles upstream (east) of Niagara Falls. It is largely flat with a few stream systems draining to the northern, eastern and western shoreline where they meet the Niagara River. It's subsurface is primarily clay with very little percolation and a very high water table in some locations. Formerly a rural

agricultural community, much of the island has reverted to wetlands as agriculture has lessened considerably. The Town of Grand Island falls entirely within the Niagara River Sub-basin, and both its northern and southern ends host state parks, Buckhorn Island State Park and Beaver Island State Park respectively.



According to the United States Census Bureau, the town has a total area of 33.3 square miles and a population of 20,374. As a bedroom community between the cities of Buffalo and Niagara Falls, the town is one of the areas of the region whose population is growing and suburban residential development is the primary land use.

The town lies adjacent to the international border between Ontario and the United States though there is no direct bridge or ferry connection from the island to Canada. Paired bridges connect the south end of the island to the Town of Tonawanda, and another pair of bridges connects the northern end to the City of Niagara Falls. The two sets of bridges are connected by a branch of the New York State Thruway.

The in-depth assessment conducted for Grand Island found the town to be very aware of their natural resources and the need to protect them. Many Island residents enjoy water-related recreation, including boating, fishing, kayaking and swimming. Of the 95 BMP categories used in the assessment Grand Island employs 39 directly through local regulations and another 5 through local practices (46% met in total)¹⁰.

The following city documents were reviewed for the assessment:

- *Town of Grand Island Zoning Ordinance*
- *Town of grand Island LWRP, 2006*
- *Town of Grand Island Website (www.grand-island.ny.us)*

In addition to reviewing local documents, a meeting was held with the following Town of Grand Island staff members to discuss local practices and departmental policies:

- Mary Cooke, Town Supervisor
- Ray Billica, Town Council
- John C. Whitney, P.E., Town Engineer
- Lynn M. Dingey, Assistant Civil Engineer

¹⁰ Of the 101 total BMPs in the assessment, only 96 are applicable to Grand Island.

- James B. Tomkins, Highway Superintendent
- Douglas M. Learman, Building Inspector & Code Enforcement Officer
- Diane Evans, Conservation Advisory Board

New & Existing Development

The Island is ripe for development but it needs to be the right kind and in the right locations. The population is growing. The Township knows it needs to be proactive in directing new growth, and desires additional tools to support water quality and natural area protection. The Island's zoning codes are currently quite progressive as it is, with regards to protecting water quality. The town Conservation Advisory Board is active and has been provided more authorities and input into development than most watershed municipalities. The Conservation Advisory Board is also becoming more vocal to planning/zoning and other departments on what is most valuable in town. It was noted, however, that additional natural resource inventories are needed in order for the Conservation Advisory Board to effectively outline important natural features when they are threatened by development.

Even though many of the tools exist to guide better development in Grand Island's code, town boards lack some experience in applying these regulations to their full effect. The town would benefit from training and municipal assistance that clarifies their legal rights in regards to development review and enforcement. Many BMPs in this Assessment are part of the Island's site planning process, but are not always applied to the final approved site plan. Town staff also noted that developers are more open to major site plan revisions if they ask for them earlier in process, essentially before they even pull together their plot, site and subdivision plans.

The town also does have a conservation easement program; however it may require revisions to improve its effectiveness and citizen awareness of it. The Town could also be better at protecting trees, such as limits in clear-cutting, removal of old-growth trees, and requiring replacement. Most recently the town relied on the site plan review process to protect old growth forest areas, but found that lacking. The town has made several attempts at passing a tree ordinance, but has not pulled one together yet, mostly due to enforcement concerns.

One of the most significant additions to the Zoning Code is the Enhanced Environment Overlay District (EED) which offers protections to the Town's Significant Coastal Fish and Wildlife Habitats, and other environmentally sensitive areas. By creating this overlay, the Town recognizes different areas are intrinsically suited for different types and intensities of development.

Agriculture & Forestry

There is no active silviculture on the island. Agriculture used to have a heavy presence on the island 50 years ago, but today only one main active farm exists. Anecdotally, much of the agriculture is said to be “placeholder” farming. Land that would be vacant is being farmed (hayed or crop land) and drained so it will not revert to wetland and possibly come under protections. There are no local regulations or educational outreach programs regarding agriculture, aside from what’s offered by Erie County Soil and Water and the Natural Resource Conservation Service.

Waterways & Wetlands

The Island hosts the largest amount of Niagara River waterfront land of any community in the watershed, plus a number of smaller tributaries that drain to the Niagara River. The tributaries and Niagara River shoreline provide habitat essential to the ecosystems of the watershed. Most streams are privately or county owned and the Township does nothing to interfere with management of them. Riparian buffer setbacks exist and are based on stream classification and outlined by the town’s Engineering Department. The largest setback is a minimum of 80 feet. Waterfront setbacks are applied during site plan review and require maintenance of vegetative areas. Follow-up enforcement of riparian buffer protections has proven difficult for the town, as violations are usually in the rear of a yard and hard to find.

The Town does not ban, but discourages development in the floodplain. Current flood regulations require the lowest floor to be 2 feet above the base flood elevation. Floodplains are addressed by the Enhanced Environmental Overlay as well.

Grand Island has lots of wetlands, most are Federal and identified in the National Wetlands Inventory. In some cases wetlands are used for stormwater management and these authorized uses are pre-screened and approved through the Stormwater Management Officer. Unfortunately the town has found “cheater” stormwater drainage systems discharge into areas wetlands. Development impacts to wetlands are also taken into account in the Enhanced Environmental Overlay.

Marinas

Grand Island has about 25 miles of shoreline and host a number of marinas and private docks. The Town’s code only regulates marinas in regards to boat storage (i.e. visibility of boats). They are an allowable use, but the Island defers entirely to state and federal authorities (DEC & US ACE) regarding their permitting, placement and design. The Town has site plan approval of any structures being built, but has no particular requirements incorporating BMPs or shoreline protections for marinas or docks.

Roads & Bridges

Much of the road-related issues affecting water quality are addressed by the Engineering Department, however problems are tackled once discovered. Culvert inspections do not occur regularly. The county does conduct infrastructure maintenance and inspections on their infrastructure and in a few cases will alert the town to issues on town-owned infrastructure.

Town highway staff regularly attends the Cornell Local Roads trainings. The highway superintendent has instituted amendments to their de-icing practices resulting in the reduction of road salt used and the town currently only mows right-of-ways, fertilizers and pesticides are not used on roadside ditches.

Onsite Wastewater Systems

Septic systems are a problem on the island. There are a lot of them. Most of the western half of the island along with smaller areas to the north and southeast are all on septic systems. Many do not work particularly well given the clay substratum of the island. The clay provides no percolation and a sand filter must be built under the septic tank. This type of system sees more overflows and failures. The town is aware of the failures due to the “smell in the summertime”. It is known that there are a lot of “cheater” pipes that discharge directly to local creeks and stormwater infrastructure. The town feels that the main problem is that many residents simply do not know how to use and maintain their septic systems. Education can be very valuable approach in solving this problem.

Recommended Future Actions for the Town of Grand Island

- Collaborate with regional organizations and citizens to effectively inventory valued resources that require preservation and protection in development review processes.
- Expand the scope of the Enhanced Environmental Overlay to encompass additional important living infrastructure lands, such as riparian buffers around all creeks and streams, the Niagara River shoreline, all high-functioning wetlands and forest habitats.
- Strengthen protections for riparian buffer vegetation and mature trees in town. Consider the addition of stronger regulatory language governing the management of required buffer areas.
- Investigate opportunities to enhance participation in the town’s easement program, including additional incentives.
- Require a local permit for piers or docks located over jurisdictional Town waters.
- Adopt a Clean Marina citizen education program to improve management of private marinas and docking facilities.
- Regulate the design of private docks in accordance with BMPs.

- Train local staff and board members on reviewing developments from a water quality and habitat protection lens.
- Encourage developers to hold initial meetings with town staff and boards prior to submitting applications.
- Amend zoning regulations or produce a site design guidelines publication to more clearly guide development towards preferred designs.
- Collaborate with Erie County Health Department to find and address the illegal septic dumping and educate landowners on property septic operation and maintenance.
- Report illegal septic discharges to the Erie County Health Department.
- Incorporate marina design and maintenance BMPs into the waterfront zoning overlay. Legally the Township has jurisdiction 1100' out into the river and can pursue their regulatory authority.
- Conduct regular inventories of culverts and MS4 infrastructure to identify issues earlier, when they may still be functional but impact water quality and habitat.

Town of Colden, NY

The town of Colden is a small rural community located south of the city of Buffalo, with the Towns of Aurora to the north, Holland to the east, Concord/Sardinia to the south and Boston to the West. Colden contains 35.7 square miles. In 2010 it had a population of 3,265, according to the US Census. It is very sparsely populated with only .14 persons/acre.

The town is almost entirely contained within the Cazenovia Creek section of the Buffalo River Sub-watershed. The west branch of the Cazenovia creek runs through the town, as do many smaller streams and tributaries. Colden's topography is made up of hills and valleys associated with the West Branch of Cazenovia Creek, which flows roughly south-north through along the western border of the town. Colden is the most northern section of ski country for Erie County and hosts two ski resorts in town, Buffalo Ski Club and Kissing Bridge. In this Cazenovia Creek valley (Route 240) area the soil is gravelly loam, while on the hills the gravel has a large clay element.

Colden's master plan is quite dated. It was prepared in 1992 as a ten year plan. According to this plan, the town is mostly a "residential dormitory community" with its residents employed elsewhere. It is primarily zoned agricultural (although the soil is very poor for agriculture) with strips of

Erie County



residential and commercial zoning following the north/south roadways in the center and west of the township. A focus of the town is to maintain Colden's picturesque quality while encouraging relevant development. The town recognizes that its natural features are an important component of its rural identity and appeal.

Colden is the home of the Colden Gas Storage Field which is a federally authorized natural gas storage field. The Town approved a six month gas drilling moratorium in 2012 while pursuing a study on the effects of drilling on the environment. After the report they chose to ban High Velocity fracking in the Township. Colden Well Being, a group dedicated to Protecting Our Water Rights (POWR) in Colden is primarily involved in the fracking conversation but is also concerned with other water quality issues.

The following city documents were reviewed for the assessment:

- *Town of Colden Cluster Housing Ordinance*
- *Town of Colden Farming Ordinance*
- *Town of Colden Flood Damage Prevention Ordinance*
- *Town of Colden Master Plan 2002 (1992)*
- *Town of Colden Recycling Ordinance*
- *Town of Colden Streets & Sidewalks Ordinance*
- *Town of Colden Wind Energy Conversion Systems Ordinance*
- *Town of Colden Zoning Ordinance*
- *Gas Drilling in the Town of Colden, report (2013)*
- *Town of Colden Website (www.townofcolden.com)*

Buffalo Niagara Riverkeeper was not able to obtain a meeting with Town of Colden to discuss local practices and departmental policies. The following assessment is based solely on town codes. With just the evaluation of local laws and policies, the Town of Colden scored 30 points out of a total of 100 possible points.

New & Existing Development

Colden, being a small, rural community, doesn't have much new development and is not forecast for growth. Because of this, their zoning does not go to the detail that some of the more built-out communities go to. They do allow for the preservation of natural features. Colden is rural and lacking in significant public infrastructure making large scale development impossible which reinforces large lot development, but also limits development pressures. The plan does recommend that commercial and industrial development take place in the Town's denser hamlet areas and along the Town's main

arterial, Route 240. However, this area of town has flooding issues and development occurring in this area should not encroach into the flood plain.

Agriculture & Forestry

Colden makes little mention of forestry in their code or master plan, despite being significantly forested. This may be due to the hilly landscape limiting the ability of forestry operations. While the town is a Right to Farm community, farming is not a major part of Colden's economy due to poor soil conditions and unsuitable topography.

Waterways & Wetlands

Waterways and wetlands are touched upon in the zoning code but could be expanded upon, especially with the amount of tributaries and streams running through the town's borders. Of primary concern is the town's flooding and erosion issues associated with the West Branch of Cazenovia Creek. In some cases stream bank erosion is threatening private property and existing structures near the village area. Adequate setbacks are needed to address highly erodible soils and steep slopes, especially if hilltop development pressures increase for ski-resort vacation homes.

The Town of Colden has few wetlands given the terrain and soil composition. However, additional regulations should be developed to protect wetlands and forested shoreline wetlands especially, as these areas slow down flood waters, reducing erosion impacts. It may benefit the town to identify areas to recreate floodplain that has been lost and shoreline wetlands in order to reduce damage from extreme storm events.

Marinas

Not applicable, as Colden is a land locked community with no navigable waterways.

Roads & Bridges

It is not clear from local laws whether Best Management Practices are followed for roadway design, or highway and bridge maintenance.

Onsite Wastewater Systems

Colden has primarily private septic, but is hoping to make the transition to more public sewer service. It views this transition as important to attracting new development and residents. However, it seems unlikely that the Town will get public sewer service, as the Erie County Division of Sewerage Management is focused on maintaining existing infrastructure and only expanding to new areas if there presents a threat to water quality.

Similar to other municipalities, on-site septic systems are minimally regulated. This is due to many communities relying on the Erie County Department of Health to oversee proper septic operations through the property transfer process.

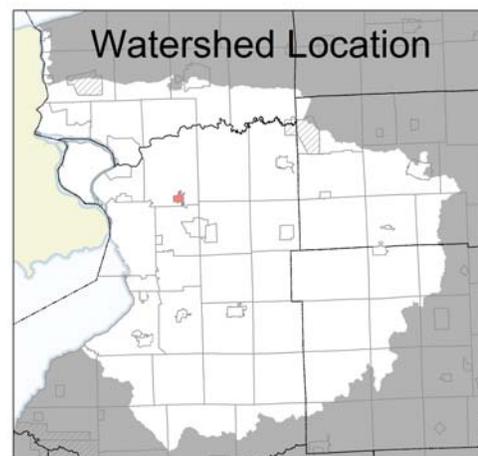
Recommended Future Actions for the Town of Colden

- Adopt Erie County's model Stormwater Ordinance to reduce stormwater pollution issues during development in town.
- Complete an inventory of natural resources then identify and prioritize them for protection. Priority should be given to the major creek/tributary corridors. The creeks contribute to the rural character of the area, provide open space corridors for wildlife, and are connective features linking the region.
- Develop zoning Conservation District overlays for Cazenovia Creek and tributaries to preserve and protect the creek corridors, implement riparian buffers and habitat protection.
- Encourage greenbelt programs to expand park/open space, large forest tracts and connectivity of living infrastructure, such as floodplains, wetlands, and forested riparian areas.
- Incorporate provisions for agricultural operations into stormwater regulations.
- Incorporate regulations addressing highly erodible soils and steep slopes in town zoning codes to limit erosion and sedimentation issues in town.
- Develop subdivision regulations that encourage clustering or smaller development footprints, limit clear-cutting and create buffers around natural features and interconnected forested areas.
- Establish regulations that limit removal of trees and heavily forested areas.
- Train local staff and board members on reviewing developments from a water quality and habitat protection lens.
- Conduct regular inventories of culverts and stormwater infrastructure to identify issues earlier, when they may still be functional but still impact water quality and habitat.
- Encourage Town staff to attend Cornell Local Roads Training programs.
- Educate officials and the public on wetland protection programs and BMPs to protect water quality with stronger drainage requirements, and public education about proper maintenance of on-site sanitary waste disposal.

Village of Williamsville, NY

Erie County

Williamsville is a small, fully developed, affluent village striving to keep its village sensibility in the midst of suburban sprawl development existing in the surrounding communities. Located in the northeastern quadrant of Erie County, the population was 5,300 at the 2010 census. Williamsville is located mostly within the Town of Amherst, but Creek Road and Creek Heights in the south part of the village are in the town of Cheektowaga. The historic village is mostly built-out with village-style density along Main Street and neighborhoods abutting this main businesses district.



Presently, the village is experiencing new larger-scale mixed use developments replacing smaller traditional commercial uses. Its recently planning goals focus on livability and the village has made great efforts to keep Main St (Route 5) walkable for the 2.2 miles between I-290 and Youngs Road.

Williamsville is in the Ellicott Creek Sub-Watershed. At Williamsville's Island Park Ellicott Creek splits briefly into two channels, one of which contains floodgates. The other channel was historically used to divert water into flumes for powering mills just downstream. Below the floodgates the creek flows rapidly through the village from south to north passing under Route 5. The Onondaga Escarpment runs through the village east-west. Glen Falls marks the place where Ellicott Creek falls over the escarpment in Glen Falls Park. The village is very environmentally aware which is reflected in both its codes and practices.

While the village has a strong focus on historic preservation, it also has a strong environmental sensibility in its comprehensive plan. It has a detailed vision to increase park access and green infrastructure as well as build upon its natural resource, Ellicott Creek. It wants to increase bike infrastructure and off street greenways/recreational trails. The Village is small and affluent giving it more opportunities (i.e. tax base) to manage water quality issues.

The Village of Williamsville's Assessment yielded a score of 144 out of a possible 156 total points (91%); 79 out of 82 BMPs are employed through either a local law or practice in the Village.

The following city documents were reviewed for the assessment:

- *Village of Williamsville Community Plan & Final Generic Impact Statement (2010)*
- *Village of Williamsville Animals Ordinance (1990)*

- *Village of Williamsville Comprehensive Plan (2009)*
- *Village of Williamsville Garbage, Rubbish & Refuse (2007)*
- *Village of Williamsville Recycling Ordinance (1992)*
- *Village of Williamsville Sewer Use Ordinance (2003)*
- *Village of Williamsville Stormwater Management (2011)*
- *Village of Williamsville Trees Ordinance (2003)*
- *Village of Williamsville Zoning Ordinance (2011)*
- *Village of Williamsville website (www.walkablewilliamsville.com)*

In addition, interviews were held with Ken Kostowniak, the General Crew Chief.

New & Existing Development

Though primarily built out, Williamsville has comprehensively addressed development through their zoning documents and recently updated comprehensive plan. The Village is also actively working to address impervious cover, through projects that recover paved right-of-ways and install green infrastructure, including rain gardens, bio-swales and porous pavers. Recently completed projects include the use of porous pavers at Glenn Falls Park, immediately adjacent to Ellicott Creek.

Most recently the village has experienced additional development of larger-scale mixed-use development along the Main Street Business district. The scale of these developments is such that they are increasing the density of the village and the percentage of overall lot coverage. This type of development pressure is expected to increase as the Village is gaining in popularity as a live-work-play community. Opportunities exist for the Village to better protect water quality in the site plan review process and utilize incentive zoning for these in-fill projects.

The Village has also recently addressed its sanitary sewer overflow issues by identifying and correcting inflow and infiltration points within the system (broken manhole pipes). Upon correction, the Village no longer has sanitary sewer overflows, unless a flood-stage rain event occurs. Much of the additional common stormwater issues are addressed in the Village's stormwater management ordinances and stormwater pollution prevention plan development/review process.

Agriculture & Forestry

Not applicable, Williamsville has no active commercial farming or silviculture occurring at this time.

Waterways & Wetlands

Williamsville's stormwater management plan (Erie County model) addresses many aspects of waterways and wetlands within the village and the comprehensive plan has a detailed vision for

enhancing the village's water resources and protecting them. The Village owns a majority of the land along Ellicott Creek, (currently part of their parks system) and is implementing the comprehensive plan item to create a "green highways" along the creek in order to protect it and improve public access.

Zoning regulations currently provide for a 30 foot development buffer from the edge of Ellicott creek, as well as provisions that encourage the protection and maintenance of vegetative along the creek's edge. While a majority of waterfront property owners have back yards that back up the creek and maintain some vegetation on the shoreline, there are still other private landowners who mow to the water's edge or include small waterfront docks and patios. Parks officials also regularly notice the dumping of yard waste in the creek despite an ordinance making this activity illegal.

Since the Village owns Glen Falls Park and Island Park, both of which abut Ellicott Creek, the Village has direct opportunities to manage waterfront land with Best Management Practices. This assessment found that the village is employing a variety of BMPs within the parks that benefit the creek, such as maintaining forested riparian buffers, reducing impervious cover, not using fertilizers or pesticides, and even adjusting the flood gates seasonally at Island Park to reduce stagnant waters and thermal issues.

Marinas

Not applicable, as Williamsville is not a waterfront community with navigable waterways.

Roads & Bridges

Several of the major roads within the Village are managed by the County. The remaining road infrastructure is managed in a means to reduce stormwater impacts. For example the village has adjusted its road salt application procedures, covered the salt shed, send highway staff to Cornell Local Roads trainings regularly, and follows the Highway Design Manual in road re-design work. The Green Highways program is an example of a potential model program that could be expanded in the region as well. The program reclaims paved right-of-ways for natural green infrastructure with pedestrian friendly amenities, reducing impervious cover and improving filtration opportunities for stormwater.

Onsite Wastewater Systems

There are only a handful of septic systems within one small sub-division. There will be no new systems. Presently the Village relies on the County Health Department to address poorly functioning septic systems during the property transfer process.

Recommended Future Actions for the Village of Williamsville

- Improve the vegetative shoreline buffers along Island Park to reduce erosion and provide additional habitat with a denser mixture of native shrubs and trees.
- Document green initiatives and practices initiated by municipal staff into formal program documents and policies in order to retain this departmental knowledge and efforts as staff change-over occurs.
- Develop outreach and educational materials for waterfront landowners that addresses better yard management practices, riparian buffer design, and how best to mitigate shoreline erosion.
- Publicize how yard waste dumping into the creek is an illegal activity and educate citizens on its impacts.
- Strengthen zoning provisions that maintain and restore vegetative buffers in riparian areas, including shorelines, wetlands, floodplains, and special habitats, with preferences for native vegetation.
- Incorporate performance standards or stricter regulations into zoning and site plan review ordinances in order to encourage low impact design, green infrastructure, and reduction of impervious cover in private development.
- Train local boards and officials on low impact development and other green methods of development that protect water quality.

The following municipal assessments were completed by the Genesee Fingerlakes Regional Planning Council as part of the *Black and Oatka Creek Watersheds Municipal Law Review*.

Town of Batavia, NY

Genesee County

Area of Municipality*	Watershed Area		% of Municipality within Watershed		% of Watershed within Municipality	
	Black	Oatka	Black	Oatka	Black	Oatka
48.43	7.46	0	15.39%	0	3.68%	0

*All area figures in square miles
*Town area calculations include villages within

Land Use Documents Reviewed:

- *Town of Batavia Zoning Ordinance. (6/17/98)*
- *Town of Batavia Highways, Vehicles and Traffic Ordinance. (1/20/99)*
- *Mobile Home Ordinance, Town of Batavia (5/18/94)*
- *Town of Batavia Comprehensive Master Plan. (7/6/93)*
- *Town of Batavia Land Subdivision Regulations. (6/15/94)*
- *Town of Batavia Flood Damage Prevention law (1996)*
- *Town of Batavia Town Roadway Specifications (1998)*
- *Dog Control Law of the Town of Batavia. Adopted (1989)*



Approximately 15% of the Town of Batavia falls within the Black Creek watershed. The town has a total area of 48.5 square miles, accounting for over 3% of the total Black Creek watershed area.

As of the Census 2000, the town had a total population of 5,915 persons. The town has 2,334 households and 1,645 families. The average household size is 2.53 persons and the average family size is 2.99 persons. The median age is 39 years. The median income for a household in the town is \$38,449. There are 2,447 housing units, housing structures were constructed in

the median year 1966, and the median value for an owner-occupied house is \$81,400.

According to the *2004 Regional Land Use Monitoring Report*, there were a total of 47 permits issued for new residential units and 12 permits issued for new commercial units between 2003 and 2004 in the Town of Batavia, indicating a significantly high rate of development within the town relative to the municipalities within the two watersheds.

The predominant land cover in the Town of Batavia is pasture/hay, with areas of row crops and small patches of mixed forest interspersed throughout. It is important to note that small portions of the watershed stretch into the City of Batavia, a municipality that has been omitted from this analysis. Land cover in the city is mainly low-intensity residential. It has been noted by local officials; however, that drainage infrastructure within the city transfers significant portions of stormwater from the Black Creek watershed into adjacent watersheds.

Best management practices in erosion and sediment control are well-represented in Batavia's land use regulations. For example, zoning ordinances stipulate that practices in erosion and sediment control should be taken from the NYS Guidelines for Urban Erosion and Sediment Control. Furthermore, stipulations regarding activities in the established Wellhead Protection District are explicit regarding water quality practices and standards. A number of BMPs were also found to be in effect within the town when considering the activities conducted by regional entities such as the county SWCD and the CCE; personal conversation with the town's highway superintendent revealed BMPs pertaining to highway maintenance as well. While regulations such as SPDES permit compliance and Stormwater Phase II Pre/Post Construction are intended to cover all of New York State, universal enforcement can at times be challenging for relevant authorities. Local regulations can therefore be an important addition to state and federal enforcement and will provide the municipality with the greatest degree of effectiveness when monitored and enforced by local officials.

The Town of Batavia has a relatively high rate of development in comparison to other municipalities within the study area. Strict oversight of site plans and construction activities should be paid by the town as agricultural land uses are converted to residential and commercial uses within the watershed. While specific erosion and sediment control BMPs were found to be present, local officials should strongly consider adopting the NYS model ordinance for stormwater management and erosion and sediment control, as it guarantees uniformity and comprehensiveness.

General attention should also continue to be paid to the maintenance of roadside ditches and other similar systems of stormwater conveyance. Roadside ditches are generally designed to accommodate only the runoff that originates from within the road right-of-way. As other connections are made from private lands, serious complications are likely to occur (specifically, downstream flooding and property damage). Continued evaluation of roadside ditches and connections of private drainage appurtenances (agricultural drainage tiles, sump pumps, field ditches, etc.) is therefore strongly recommended. Furthermore, local officials should consider identifying areas that may be appropriate for the construction of retrofit facilities – such as stormwater retention and detention ponds.

Recommendations for Future Action by Local Officials:

- Consider developing a stormwater management local law that works in conjunction with existing zoning, site plan and/or subdivision ordinances. Such a law would require developers to prepare a Stormwater Pollution Prevention Plan and submit it to the relevant local board as part of the process for new development. For complete information on stormwater and erosion and sediment control programs in NYS, including model local laws and guidance manuals, refer to the NYSDEC Division of Water Stormwater Information Page at <http://www.dec.state.ny.us/website/dow/mainpage.htm>.
- Revision of the town’s comprehensive plan, emphasizing the protection of local water resources and recognizing the importance of watershed planning efforts within the Black Creek watershed and other neighboring watersheds within the municipality.
- Continued ditch maintenance using best management practices, maintaining vegetative buffers near waterbodies, lining sensitive areas with rip rap and seeding disturbed areas immediately after are recommended practices.
- Consider opportunities to retrofit existing properties with new facilities, such as stormwater detention/retention ponds; also attempt natural conveyance restoration wherever possible.
- Continued education and outreach to area farmers by the Genesee County SWCD and CCE regarding agricultural best management practices and the various federal and state incentive programs available for implementation.
- Support education and outreach (mailings, brochures, etc.) to individuals whose lands are adjacent to Black Creek segments or contain contributing tributaries. Issues including nonpoint source pollution, riparian rights and landowner responsibilities, setbacks, floodplain protection and other stream maintenance BMPs are recommended focus areas.

Assessment Results:

Development	21 of 44 BMPs, or 48%	Forestry and Agriculture	8 of 18 BMPs, or 44%
<i>Existing Development</i>	<i>7 of 21, or 33%</i>	<i>Forestry</i>	<i>1 of 10, or 10%</i>
<i>New Development or Redevelopment</i>	<i>14 of 23, or 61%</i>	<i>Agriculture</i>	<i>7 of 8, or 88%</i>
Waterways/Wetlands	8 of 15 BMPs, or 53%	Recreation	0 BMPs found
<i>Modified Waterways</i>	<i>7 of 9, or 78%</i>	<i>Docks and Launches</i>	<i>0</i>
<i>Wetlands/Riparian Areas</i>	<i>1 of 6, or 17%</i>	<i>Golf Courses</i>	<i>0</i>
Roads and Bridges	24 of 29 BMPs, or 83%	Onsite Wastewater Treatment Systems	
<i>Existing</i>	<i>6 of 6, or 100%</i>		3 of 7 BMPs, or 43%
<i>New</i>	<i>9 of 13, or 69%</i>	<i>Table summarizes the number of BMPs found to be present within the municipality. A listing of these BMPs can be found in Appendix F. Unabridged results for each municipality can be found on the project website.</i>	
<i>All</i>	<i>9 of 10, or 90%</i>		

Town of Bethany, NY

Genesee County

Area of Municipality*	Watershed Area		% of Municipality within Watershed		% of Watershed within Municipality	
	Black	Oatka	Black	Oatka	Black	Oatka
36.12	30.29	.23	93.72%	.70%	14.96%	.11%

**All area figures in square miles*

**Town area calculations include villages within*

Land Use Documents Reviewed:

- *Town of Bethany Comprehensive Plan (1996)*
- *Town of Bethany Comprehensive Emergency Management Plan (2002)*
- *Town of Bethany Zoning Law (2004)*
- *Town of Bethany Stormwater Management and Erosion Control Law (1994)*
- *Town of Bethany Flood Damage Prevention Law (1989)*

The Town of Bethany has a total area of 36.1 square miles, with portions of it spanning both the Black and Oatka Creek watersheds. While the headwaters of the Black Creek begin in Middlebury to the south, the creek becomes well established as it enters Bethany in the area of the Genesee County Park and Forest, a public area of 444 acres which lies at the town’s southern border.



The Town of Bethany has a population of 1,760 persons. There are 636 households and 499 families residing in Bethany with an average household size of 2.77 persons and an average family size of 3.10 persons. The median age is 38 years. The median income for a household is \$45,450, and the median income for a family is \$50,234. The median year a structure was built in the town is 1954 and the median value of an owner-occupied housing unit is \$82,600.

According to the *2004 Regional Land Use Monitoring Report*, there were a total of 14 permits issued for new residential units and 0 permits issued for new commercial units between 2002 and 2003 in Bethany, indicating a low rate of development within the town relative to the municipalities within the two watersheds.

Land cover in the Town of Bethany is rather diverse. Significant stands of mixed forest line the southern half of the Black Creek riparian corridor; these stands give way to pasture/hay in the

northern half of the town. Outside of the central riparian corridor, land cover is predominately pasture/hay with significant patches of row crops. Land cover within the Bethany/Oatka Creek watershed area mirrors similar patterns as observed in the Black Creek watershed.

Town officials have noted that the majority of sediment and erosion problems occurring within the town are associated with agricultural practices rather than development. Aside from encouraging participation in voluntary federal and state incentive programs, there is little that municipal governments can do to regulate specific agricultural activities.

A comprehensive review of Bethany's land use ordinances revealed a host of important best management practices relevant to stormwater and sediment control. The town's comprehensive plan sets clear goals for the preservation of the town's rural character and the abatement of environmental degradation resulting from new development. Bethany's *Stormwater Management and Erosion Control Law* accounts for most of the BMPs that were found. The law requires erosion control plans to be developed and submitted to the responsible board for review and requires specific BMPs in erosion and sediment control to be present on disturbed sites, such as vegetative retention, various structural facilities (both temporary and permanent), as well as hazardous waste source controls. While the law covers many of the important areas relevant to erosion and sediment control, it does not meet the standards that regulated MS4s will be held to in 2008. Town officials may therefore want to consider reviewing the state model (as described on page 9 of this report) in order to ensure comprehensiveness of scope of the local stormwater and erosion control law.

A number of BMPs were also found to be in effect within the town when considering the activities conducted by regional entities such as the county SWCD and the CCE. While regulations such as SPDES permit compliance and Stormwater Phase II Pre/Post Construction are intended to cover all of New York State, universal enforcement can at times be challenging for relevant authorities. Local regulations can therefore be an important addition to state and federal enforcement and will provide the municipality with the greatest degree of effectiveness when monitored and enforced by local officials.

Recommendations for Future Action by Local Officials:

- Consider modifying current local laws to be in conformance with the *Sample NYS Local Law for Stormwater Management and Erosion and Sediment Control*. By doing so, local officials will be providing uniformity and comprehensiveness regarding stormwater management and enforcement. For complete information on stormwater and erosion and sediment control programs NYS, including model local laws and guidance manuals, refer to the NYSDEC

Division of Water Stormwater Information page at <http://www.dec.state.ny.us/website/dow/mainpage.htm>.

- During the next scheduled revision of the town’s comprehensive plan, emphasize the protection of local water resources and recognize the importance of watershed planning efforts within the Black and Oatka Creek watersheds
- Continued ditch maintenance using best management practices, maintaining vegetative buffers near waterbodies, lining sensitive areas with rip rap and seeding disturbed areas immediately after are recommended practices.
- Consider opportunities to retrofit existing properties with new facilities, such as stormwater detention/retention ponds; also attempt natural conveyance restoration wherever possible.
- Continued education and outreach to area farmers by the Genesee County SWCD and CCE regarding agricultural best management practices and the various federal and state incentive programs available for implementation.
- Support education and outreach (mailings, brochures, etc.) to individuals whose lands are adjacent to Oatka Creek and Black Creek segments or contain contributing tributaries. Issues including non-point source pollution, riparian rights and landowner responsibilities, setbacks, floodplain protection and other stream maintenance BMPs are recommended focus areas.

Assessment Results:

Development	24 of 44 BMPs, or 55%	Forestry and Agriculture	8 of 18 BMPs, or 44%
<i>Existing Development</i>	<i>10 of 21, or 48%</i>	<i>Forestry</i>	<i>1 of 10, or 10%</i>
<i>New Development or Redevelopment</i>	<i>14 of 23, or 61%</i>	<i>Agriculture</i>	<i>7 of 8, or 88%</i>
Waterways/Wetlands	10 of 15 BMPs, or 67%	Recreation	0 BMPs found
<i>Modified Waterways</i>	<i>8 of 9, or 89%</i>	<i>Docks and Launches</i>	<i>0</i>
<i>Wetlands/Riparian Areas</i>	<i>2 of 6, or 33%</i>	<i>Golf Courses</i>	<i>0</i>
Roads and Bridges*	11 of 29 BMPs, or 38%	Onsite Wastewater Treatment Systems	
<i>Existing</i>	<i>1 of 6, or 17%</i>	2 of 7 BMPs, or 29%	
<i>New</i>	<i>6 of 13, or 46%</i>	<i>Table summarizes the number of BMPs found to be present within the municipality. A listing of these BMPs can be found in Appendix F. Unabridged results for each municipality can be found on the project website.</i>	
<i>All</i>	<i>4 of 10, or 10%</i>		

Roy Hersee, Town of Bethany Highway Superintendent could not be reached for comment; section therefore is incomplete.

Town of Orangeville, NY

Wyoming County

Area of Municipality*	Watershed Area		% of Municipality within Watershed		% of Watershed within Municipality	
	Black	Oatka	Black	Oatka	Black	Oatka
35.67	0	7.29	0	20.44%	0	3.39%

*All area figures in square miles
*Town area calculations include villages within

Land Use Documents Reviewed:

- *Town of Orangeville Zoning Ordinance (1964)*
- *Amendments related to building permits and agricultural districts (1979)*



Approximately 3.4% of the total area of the Oatka Creek watershed lies within the eastern portion of the Town of Orangeville. The town has an area of 35.7 square miles, 0.25% of which is water.

Orangeville has a total population of 1,300 and possesses 602 housing units according to the 2000 US Census. The median year a structure was built in Orangeville is 1971, and the median value for an owner-occupied housing unit is \$82,600. There are 485 households and 358 families residing in the

town; the average household size is 2.68 persons and the average family size is 3.07 persons. The median age is 37 years and median income for a household in the town is \$45,208.

According to the *2004 Regional Land Use Monitoring Report*, there were a total of 36 permits issued for new residential units and 0 permits issued for new commercial units between 2002 and 2004 in Orangeville, indicating a high rate of development within the town relative to the municipalities within the two watersheds.

A comprehensive assessment of the Town of Orangeville’s land use regulations revealed no ordinances or regulations specific to erosion and sediment control. The Town’s highway superintendent is, however, amply aware of drainage issues throughout the town and has personally overseen the installation of several mitigation projects approved by FEMA related to flash-flooding and stormwater control (specifically, culvert re-sizing and “drop-box” or check dam installation). Continued evaluation as to the effectiveness of these structures and regular maintenance will be crucial to avoiding problems in the future.

There were a number of BMPs found to be in effect throughout the town when considering the activities conducted by regional entities such as the county SWCD and the CCE; personal conversation with the town's highway superintendent revealed information in this regard as well. While regulations such as SPDES permit compliance and Stormwater Phase II Pre/Post Construction are intended to cover all of New York State, universal enforcement can at times be challenging for relevant authorities. Local regulations can therefore be an important addition to state and federal enforcement and will provide the municipality with the greatest degree of effectiveness when monitored and enforced by local officials.

The predominate land cover in the Orangeville portion of the Oatka Creek watershed is hay/pasture, with a modest amount of mixed forest along with a small amount of land used for row crop production. This portion of the watershed is characterized by very steep slopes with deep gullies, resulting in high-velocity surges in stormwater runoff during rain and thaw events. Two Oatka Creek tributaries – Stony Creek and Relyea Creek – are the primary drainage channels here. While both appear to be well-forested, their contributing tributaries appear to be somewhat unprotected and are likely to receive and contribute significant volumes of water from roadside ditches and drainage tiles originating in private farmland.

Considering the relatively high degree of new construction that has been occurring in the Town of Orangeville over the past several years, it may be prudent for town officials to consider enacting a stormwater management local law, as the risks of erosion resulting from construction activities are likely to increase if these building trends persist. This is of particular importance when considering the relative age of Orangeville's current land use regulations, which currently lack provisions related to erosion and sediment control.

General attention should also continue to be paid to the maintenance of roadside ditches and other similar systems of stormwater conveyance. Roadside ditches are typically designed to accommodate only the runoff that originates from within the road right-of-way. As other connections are made from private lands, serious complications are likely to occur (specifically, downstream flooding and property damage). Continued evaluation of roadside ditches and connections from private drainage appurtenances (agricultural drainage tiles, sump pumps, other ditches from private lands, etc.) is therefore strongly recommended.

Recommendations for Future Action by Local Officials:

- Designate a local official (preferably a member of the town board) to represent the town at future Oatka Creek Watershed Committee meetings. Meetings are held on a monthly basis during the 3rd Monday of each month at the LeRoy Village Hall.

- Consider developing a stormwater management local law that works in conjunction with existing zoning, site plan and/or subdivision ordinances. Such a law would require developers to prepare a Stormwater Pollution Prevention Plan and submit it to the relevant local board as part of the process for new development. For complete information on stormwater and erosion and sediment control programs in NYS, including model local laws and guidance manuals, refer to the NYSDEC Division of Water Stormwater Information Page at <http://www.dec.state.ny.us/website/dow/mainpage.htm>.
- Drafting of a comprehensive plan, emphasizing the protection of local water resources and recognizing the importance of watershed planning efforts within the Oatka Creek watershed and other neighboring watersheds within the municipality.
- It is highly recommended that check dams be constructed and/or maintained in steep slope areas which have considerable potential to produce high-velocity runoff.
- Continued ditch maintenance using best management practices, maintaining vegetative buffers near waterbodies, lining sensitive areas with rip rap and seeding disturbed areas immediately after is also recommended.
- Consider developing environmental protection overlay zones (see “EPOD,” page 13) for significant tributaries and steep slope areas, prohibiting the erection of new structures within at least 50 feet of environmentally sensitive areas.
- Continued education and outreach to area farmers by the Wyoming County SWCD and CCE regarding agricultural best management practices and the various federal and state incentive programs available for implementation.
- Support education and outreach (mailings, brochures, etc.) to individuals whose lands are adjacent to Oatka Creek segments or contain contributing tributaries. Issues including nonpoint source pollution, riparian rights and landowner responsibilities, setbacks, floodplain protection and other stream maintenance BMPs are recommended focus areas.

Assessment Results:

Development	12 of 44 BMPs, or 27%	Forestry and Agriculture	7 of 18 BMPs, or 39%
<i>Existing Development</i>	<i>8 of 21, or 38%</i>	<i>Forestry</i>	<i>1 of 10, or 10%</i>
<i>New Development or Redevelopment</i>	<i>4 of 23, or 17%</i>	<i>Agriculture</i>	<i>6 of 8, or 75%</i>
Waterways/Wetlands	7 of 15 BMPs, or 47%	Recreation	0 BMPs found
<i>Modified Waterways</i>	<i>6 of 9, or 67%</i>	<i>Docks and Launches</i>	<i>0</i>
<i>Wetlands/Riparian Areas</i>	<i>1 of 6, or 17%</i>	<i>Golf Courses</i>	<i>0</i>
Roads and Bridges	22 of 29 BMPs, or 76%	Onsite Wastewater Treatment Systems	
<i>Existing</i>	<i>5 of 6, or 83%</i>		2 of 7 BMPs, or 29%
<i>New</i>	<i>8 of 13, or 62%</i>	<small>Table summarizes the number of BMPs found to be present within the municipality. A listing of these BMPs can be found in Appendix F. Unabridged results for each municipality can be found on the project website.</small>	
<i>All</i>	<i>9 of 10, or 90%</i>		

Model Regulations & Resources

Listed below are model ordinances and zoning regulations from various localities within New York State that strengthen local protections on water resources from the impacts of development. The models were either drafted by or recognized as effective legislation through County Planning Departments, other New York State watershed management organizations, or the *Protecting Water Resources through Local Controls and Practices* guide. All of the models ordinances are provided in the Appendix.

Site Plan Review Process

Appendix F

Town of Ithaca, Site Plan Review and Approval Procedures

Model Site Plan Review Local Law for Cattaraugus County, New York

Subdivision

Appendix G

Town of Middlesex Subdivision Regulations

Model Subdivision Regulations, Dutchess County Planning Department, New York

City of Saratoga Springs Conservation Subdivision Regulations

Riparian Buffer/Shoreline

Appendix L

Tompkins County Model Stream Buffer Ordinance, Riparian Protection Agreement & Riparian Buffer Easement.

Town of Ithaca, Stream Setback Ordinance

Town of Geneseo, Erosion & Sediment Control with Riparian Protections (Non-MS4 Community).

Village of Trumansburg Stream Buffer Conservation Overlay District (simplified version of Tompkins County Model Stream Buffer Ordinance)

Wetlands

Appendix K

Village of Trumansburg Wetland Conservation Overlay District

Town of Pawling Freshwater Wetlands and Watercourse Protection

Steep Slopes

Appendix N

Town of Livonia Land Conservation Regulations

Town of Cortlandt Steep Slopes Ordinance

Openspace/Conservation

Appendix H

Town of Ithaca, Conservation Zones (includes provisions for steep slopes, cluster subdivision, vegetative riparian buffers, sensitive habitats, wildlife corridors, timber harvesting, and scenic views).

Town of Livonia, Land Conservation Regulations

Flood Regulations

Appendix J

FEMA model floodplain regulation

Stormwater Management and Sediment and Erosion Control

Appendix M

Sample Local Law for Stormwater Management and Erosion & Sediment Control, NYS DEC

Town of Geneseo, Erosion & Sediment Control with Riparian Protections (Non-MS4 Community).

On-site Wastewater Ordinance

Appendix I

Ontario County Planning Department Onsite Wastewater System Model Law

Junk Yard Ordinance

Appendix O

Model Junkyard Ordinance, James Coon Local Government Technical Series

Town of Groveland Junk Storage Model Law

Waste Storage Ordinance

Appendix S

Town of Decatur ordinance regulation recyclable material & waste storage, treatment & disposal

Logging/Sivilculture Practices

Appendix P

Canandaigua Watershed Council Timber Harvesting Law

Marinas/Boat Launches/Docks

Appendix Q

Lake George Park Commission, Docks, Wharfs, Moorings and Marinas Regulations

Town of Ulysses, Lakeshore District Regulations

Additional Organizations and Agencies involved in Watershed Planning & Protection

As a final element of the Assessment of Laws and Practices, an inventory was conducted of all the additional organizations involved in water resources management beyond the municipal level. The following is a summary of the local, state, federal, and international agencies, whose staff, programs, activities, and regulatory authority influence watershed health directly¹¹. Non-profit organizations with an environmental focus central to the intent of this plan are also outlined, as their initiatives often fill the gaps of governmental programs and policies, as well as provide “boots-on-the-ground” to implement many local initiatives.

Local Organizations & Agencies

County Water Quality Coordinating Committees (WQCC)

Water quality committees were formed to develop and implement county non-point source water quality strategies. Committee members generally represent municipalities; local, state and federal agencies; and outdoor recreation and environmental organizations. The Committees identify water quality problems, prioritize needed actions, seek funding for projects, coordinate programming and recommend policy to protect and improve water resources in their respective county and its watersheds.

- Erie County Water Quality Committee
- Genesee County Water Quality Coordinating Committee
- Niagara County Water Quality Coordinating Committee
- Wyoming County Water Resources Coordinating Committee
- Orleans County Water Quality Coordinating Committee

NYS Soil and Water Conservation Districts (SWCD)

New York State created the Soil and Water Conservation Committee in 1940 along with its subsequent districts as part of the NYS Soil and Water Conservation Law. There are five districts in the watershed based on county boundaries, Erie County SWCD, Genesee County SWCD, Niagara County SWCD, Orleans County SWCD, and Wyoming County SWCD. Soil and Water districts play an important role in the monitoring and assessment of public and private water and soil quality, and in the design and implementation of conservation plans and practices. They also are involved in watershed, recreation and natural resource planning; management, stewardship, public education and outreach activities. Some key program areas include:

¹¹Organizations and Agencies were partially researched through the Genesee/Finger Lakes Regional Planning Council guide: *Protecting Water Resources through Local Controls and Practices: An Assessment Manual for New York Municipalities*.

- NYS Ag Non-Point Source Abatement and Control Program
- Agricultural Environmental Management (AEM) Program, Coordination & Outreach
- Comprehensive Nutrient Management Planning (CNMP)
- Mining & Mined Lands Reclamation Planning
- Stream bank Stabilization & Streamside Conservation
- Watershed Planning, Education & Water Quality Monitoring
- Conservation Technical Assistance for Municipalities
- Agricultural Conservation Reserve Enhancement Program (CREP)
- Native Tree & Shrub Seedling Program & Hydro Seeding
- Fish Stocking & Pond Design Assistance

County Health Departments

County Health Departments manage and enforce the New York State Sanitary Code regulations including the construction, repair, expansion, and replacement of onsite sewage disposal systems, and both public and private drinking water supplies. The departments also ensure compliance for existing systems through property transfer certifications, and periodic water quality monitoring of public/private drinking water systems. Drinking water systems found in violation with EPA's Safe Drinking Water Act are required to address the contaminant and conduct on-going monitoring till the system is no longer in violation. Erie, Niagara, and Genesee County Health Departments also regularly monitor public beaches during the summer season to determine if the water quality poses a health risk.

County Planning Boards & Departments

County planning boards review local land development projects and certain land use actions that may have county-wide or intermunicipal impacts. These municipal referrals are required by Article 12B, Section 239 of NYS General Municipal Law. County planning departments generally serve as staff to their county planning boards, perform other county planning functions, and often provide technical assistance to local municipalities on a wide variety of planning initiatives. They may also assist with economic/community development activities. Presently the County Planning Departments are involved in the following watershed and water quality committees and projects:

Erie County Department of Environment & Planning

- Erie County Water Quality Committee Management
- WNY Stormwater Coalition Joint-Management
- Lake Erie Watershed Protection Alliance (LEWPA) Participation
- Tonawanda Creek Watershed Committee Participation
- Municipal Separate Storm Sewer Mapping Project

- Initiatives for a Smart Economy – Habitat Restoration & Water Infrastructure Investment
- Black Rock Canal Park Green Technology and Green Infrastructure Improvements
- Rush Creek Interceptor Project
- Lackawanna Wastewater Treatment Plant Elimination Project
- Rainwater Cistern Project
- Brownfields Remediation (Polymer Applications & River Road Former Tank Farm)

Genesee County Planning Department

- Water System Hookup Administrative Review Committee Participation
- Soil & Water Conservation District Water Quality Coordinating Committee Participation
- Tonawanda Creek Watershed Committee Participation
- Black Creek Watershed Coalition Watershed Management Planning Assistance
- Oatka Creek Watershed Committee Watershed Management Planning Assistance
- Genesee County Water Resources Agency Assistance
- Smart Growth Planning
- Ag & Farmland Protection Board Participation

Niagara County Economic Development

- Niagara County Soil and Water Conservation District Participation
- 1 Region Forward Project Participation
- Brownfield Remediation
- WNY Stormwater Coalition Joint-Management

Wyoming County Planning Department

- Tonawanda Creek Watershed Committee Participation
- Buffalo Creek Watershed Planning
- Black Creek Watershed Coalition Watershed Management Planning Assistance
- Oatka Creek Watershed Committee Watershed Management Planning Assistance
- Silver Lake Watershed Management Planning Assistance

Orleans County Planning & Development

County Environmental Management Councils (EMC)

Erie and Niagara Counties have EMC's that advise county government on local environmental concerns and act as a liaison between communities and county government. EMC projects often take the form of studies that provide recommended courses of action for decision makers. Councils are established as part of Article 47 of New York State's Environmental Conservation Law and membership includes representatives from cities, towns and villages within each county, as well as regional environmental organizations.

Local & County Utilities, Authorities & Districts

There are a number of municipal and county authorities, districts and departments that supply drinking water and/or provide sewage collection and treatment to their customers.

- Buffalo Sewer Authority: Serves the City of Buffalo and the Towns of Amherst, Alden, Cheektowaga, Lancaster, Orchard Park, Tonawanda, West Seneca and the Villages of Depew, Lancaster, and Sloan.
- Erie County Sewer Districts (1-8): Serves the City of Lackawanna, Towns of Alden, Amherst, Aurora, Clarence, Cheektowaga, Collins, Eden, Evans, Hamburg, Holland, Lancaster, West Seneca, and Villages of Blasdell, Hamburg, Depew, East Aurora, Lancaster and Orchard Park.
- Niagara County Sewer Districts: Serves the Towns of Wheatfield, Pendleton, Cambria, Lewiston, Lockport and Niagara.
- Erie County Water Authority: Serves the Towns of Alden, Amherst, Aurora, Eden, Hamburg, Lancaster, Marilla, Newstead, Orchard Park, West Seneca, and the Villages of Hamburg and Orchard Park.
- Niagara County Water District: Serves the Towns of Cambria, Lewiston, Lockport, Niagara, Pendleton, Porter, Royalton, Wheatfield, and the Villages of Lewiston and Youngstown.
- Niagara Falls Water Board: Serves the City of Niagara Falls.
- Municipal Water Authorities, Districts, & Departments: Cities of Batavia, Buffalo, Lockport, Niagara Falls, North Tonawanda, and the Towns of Alabama, Alexander, Aurora, Cambria, Colden, Elma, Evans, Grand Island, Holland, Java, Lewiston, Lockport, Niagara, Pendleton, Porter, Shelby, Royalton, Tonawanda, Warsaw, Wheatfield and Villages of Akron, Alden, Attica, East Aurora, Kenmore, Lewiston, Orchard Park, Williamsville, Youngstown
- Genesee County Water Resources Agency (GCWRA): Serves as a supporting agency for planning, design, and decision making purposes for county water systems.
- Wyoming Water Agency: Newly formed agency supports municipal public water works by consolidating purchasing and testing needs, and cross-training plant operators to address staffing issues.

Tuscarora and Tonawanda Indian Nations

The Tuscarora Indian Nation and Reservation of about 5,700 acres is located in the Lewiston, Niagara County area. The Nations governing body, the Council of Chiefs, has a government-to-government relationship with the United States government. The Tonawanda Indian Nation and Reservation of 7,549 acres is located in Erie, Niagara and Genesee Counties, within the townships of Newstead Royalton, and Alabama.

Both Nations are members of the Haudenosaunee Environmental Task Force (HETF) whose mission is to help Haudenosaunee Nations in their efforts to conserve, preserve, protect, and restore their environmental, natural, and cultural resources; to promote the health and survival of the sacred web of life for future generations; and to fulfill their responsibilities to the natural world as their Creator instructed without jeopardizing peace, sovereignty, or treaty obligations. The HETF is administering a grant from the USEPA to assist the Cayuga, Tuscarora and Tonawanda Seneca Nations as they develop environmental programs.

WNY Stormwater Coalition

Forty municipalities in Erie and Niagara Counties have joined together for the purpose of developing a stormwater management program to protect community waterways. These MS4 communities share resources and work in partnership to comply with EPA Phase II storm water requirements. Operators of small municipal separate storm water systems (MS4) are required to implement six minimum control measures and integrate review of required stormwater plans into land use regulation. The goal of the Coalition is to facilitate regional collaboration that identifies water resources and develops programs to reduce the negative impacts of storm water pollution.

Niagara River Greenway Commission

The Commission was established out of legislation adopted in 2004 as part of the New York Power Authority (NYPA) relicensing agreement for its Niagara River Hydro facilities and included a funding resource to support the Commission's efforts. Since the relicensing, the Commission has developed and adopted the Niagara River Greenway Plan to guides the creation of a Niagara River Greenway Trail, along with other improvements to waterfront public space, habitat, and cultural assets. Regional projects seeking Greenway funding are reviewed by the Commission for consistency with the Plan's vision and priorities. Commission Standing Committee's then determine if funding requests are approved. To date, the Commission has funded approximately 116 projects with over \$34 Million in Greenway money and a total value of \$735 Million.

Tonawanda Creek Watershed Committee

This recently formed committee is a multi-county alliance of local, county, tribal and regional officials as well as interested landowners and other stakeholders located within Wyoming, Genesee, Erie and Niagara Counties. Their mission is to protect, conserve and restore the quality of Tonawanda Creek and its watershed by planning and managing its ecosystem resources for a sustainable future that enhances the vitality of watershed communities. Current efforts include distributing the Map Guide to the Tonawanda Creek, marking storm drains, conducting stream monitoring, and expanding committee participation.

Genesee/Finger Lakes Regional Planning Council (G/FLRPC)

Genesee and Wyoming Counties are members of the G/FLRPC which is a public organization that fosters coordination among neighboring counties and provides a regional approach to shared issues. The participating county governments have joined together voluntarily to address common economic and social concerns through regional programs and activities. Primary G/FLRPC functions include regional and water resources planning; regional economic development; strategic planning; program and grant development; a regional data, technology, and resource center; and technical assistance to member counties and their municipalities.

Lake Erie Watershed Protection Alliance (LEWPA)

LEWPA is a newly formed watershed organization, whose mission is to foster collaboration and partnerships to address regional water quality and quantity concerns within the Lake Erie Watershed, specifically the Counties of Erie, Cattaraugus, and Chautauqua in New York State. LEWPA aims to conduct watershed management planning, flood resiliency planning, reduce non-point source pollution, enhance water related recreation activities, natural habitat planning, and educational activities to foster community stewardship.

WNY Crop Management Association

The Western New York Crop Management Association works with farmers across the region to increase their efficiency of crop input management and to bolster their environmental responsibility. Membership in the association has grown to include over 400 farms, comprising over 250,000 acres of consulted crop land across Allegany, Erie, Chautauqua, Cattaraugus, Genesee, Livingston, Monroe, Niagara, Ontario, Orleans, Steuben, Wayne, Wyoming, and Yates Counties.

State Organizations & Agencies

NYS Department of State (NYSDOS), Office of Planning and Development

This Office is involved in a wide variety of programs and initiatives that help revitalize, promote and protect communities and waterfronts. Over the past twenty years, the Office has worked with hundreds of local governments and communities to prepare Local Waterfront Revitalization Programs (LWRPs) and Harbor Management Plans (HMPs). The Office also provides technical and financial assistance for plans and projects that have expanded public access, revitalized urban waterfronts, restored habitat, improved water quality, and strengthened local economies.

Among other activities the Office implements the Federal Coastal Zone Management Act and the State's Waterfront Revitalization of Coastal Areas and Inland Waterways Act; implements and administers the NYS Coastal Nonpoint Pollution Control Program; provides planning and technical

assistance for redevelopment of brownfields, abandoned buildings and deteriorated urban waterfronts; and protects water quality through inter-municipal watershed planning.

NYS Department of Environmental Conservation (NYSDEC)

The NYS Department of Environmental Conservation exists to, "conserve, improve, and protect New York State's natural resources and environment, and control water, land and air pollution, in order to enhance the health, safety and welfare of the people of the state and their overall economic and social well-being." The DEC has numerous departments and divisions, some of which are described below.

NYSDEC Division of Environmental Permits

This DEC Division reviews projects that require DEC permits, conducts environmental assessments under the State Environmental Quality Review Act (SEQRA), and reviews energy projects. SEQRA requires all state and local governments and agencies to assess the environmental impacts and significance of all discretionary actions they undertake. These agencies must assess the environmental significance of all such actions that they may approve, fund or directly undertake. They also work with business/industry to reduce waste generation.

NYSDEC Division of Water

This DEC Division protects and conserves the water resources of New York State through a wide range of programs and activities. Water quality standards contain the classification system for New York State surface and ground waters. The standards and guidance values for surface water and groundwater quality and groundwater effluent limitations are included in these regulations, including the State Pollution Discharge Elimination System (SPDES).

The New York State Protection of Waters Regulatory Program is the implementing structure behind Article 15 of the NYS Environmental Conservation Law. All waters of the state are provided a class and standard designation based on existing or expected best usage of each waterway or segment.

The Protection of Waters Regulatory Program regulates five different categories of activities:

- Disturbance of bed or banks of a protected stream or other watercourse.
- Construction, reconstruction or repair of dams and other impoundment structures.
- Construction, reconstruction or expansion of docking and mooring facilities.
- Excavation or placement of fill in navigable waters and their adjacent and contiguous wetlands.

- Water quality certification for placing fill or undertaking activities resulting in a discharge of waters of the United States.

The NYSDEC has classified regulated freshwater wetlands according to their respective function, values and benefits. Wetlands may be Class I, II, III or IV. Class I wetlands are the most valuable and are subject to the most stringent standards. A wetland must be 12.4 acres or larger for protection under the Freshwater Wetlands Act. Smaller wetlands may be protected when the NYSDEC Commissioner determines they have unusual local importance in providing one or more wetland functions. The wetland buffer zone, an adjacent area that extends 100 feet from the wetland boundary, may also be regulated.

The NYSDEC Priority Waterbodies List (PWL) is required by Section 303(d) of the Clean Water Act and is a section of the 305(b) Water Quality Report made by NYSDEC to the United States Environmental Protection Agency (USEPA). The PWL identifies waters that have one or more uses that are not fully supported or are threatened by conditions or practices that could lead to declining water quality. The PWL is used as a basis for water program management.

The NYSDEC has been delegated by the federal government to carry out U.S. EPA's National Pollution Discharge Elimination System (NPDES) program. The program's goal is to limit pollution of the nation's lakes, streams and rivers by runoff from construction sites and developed areas using a SPDES permit (State Pollutant Discharge Elimination System). New York State has issued two non-industrial Stormwater Management General Permits under SPDES, one for construction site operators and one for regulated localities.

State Pollution Discharge Elimination System (SPDES) permits are also required for Concentrated Animal Feeding Operations (CAFO's). A CAFO is an agricultural operation that confines a large number of livestock in a barn or feed lot for a specific period of time. The CAFO regulations define the animal number thresholds that constitute medium and large scale CAFOs, specific effluent management guidelines for those operations, and record keeping requirements. The Agricultural Environmental Management (AEM) program has been used to help farms comply with CAFO regulations.

NYSDEC Division of Fish, Wildlife and Marine Resources

This DEC Division protects fish, wildlife and habitats; issues licenses and educates anglers, hunters and trappers; and maintains boat launches and fishing access sites.

NYSDEC Division of Lands and Forests

This DEC Division manages more than four million acres of state owned land and conservation easements including the Adirondack and Catskill forest preserves and state forests. The Division also administers the Saratoga Tree Nursery and programs for forest health, urban and community forestry, forest products use, and provides assistance to private forest land owners.

NYS Environmental Facilities Corporation (EFC)

The NYS Environmental Facilities Corporation (EFC) provides funding and technical assistance to municipal and private entities to comply with environmental regulations, and for capital projects that improve environmental protections. Their focus involves projects associated with water and sewer infrastructure, air emissions, energy consumption, and general natural resource management. The EFC oversees a variety of grant and loan programs, including the Clean Water State Revolving Loan Fund (CWSRF), the Green Innovation Grant Program (GIGP), the Drinking Water State Revolving Loan Fund (DWSRF), Clean Vessel Assistance Program, Small Business Environmental Assistance Program, and Industrial Finance Program. The CWSRF and DWSRF provides low-interest rate financing to municipalities to construct improvement projects for sewers, drinking water and wastewater treatment facilities, while the GIGP provides funding for green infrastructure/technologies to improve water quality and stormwater management. While the remaining programs offer regulatory compliance assistance for private businesses.

NYS Department of Agriculture and Markets

The Agricultural Environmental Management (AEM) Program helps farmers meet economic challenges and address environmental concerns while complying with regulatory requirements. AEM is a state-wide, voluntary, incentive-based program designed to help farmers better understand how their on-farm activities impact the environment. The program is designed to guide farmers through the regulatory framework, provide funding for on-farm improvements and encourage farmers to adopt methods that can effectively address issues such as non-point source water quality concerns and other agriculture environmental issues. All NYS counties are required to develop a five-year strategic plan to guide AEM activities in priority areas of concern. Plans are required to emphasize the watershed approach to environmental management. The Department of Agriculture and Markets also implements the Agricultural Nonpoint Source Abatement and Control Program, which provides funds for nonpoint source abatement and control projects that plan or implement Agricultural Best Management Practices on New York State farms. These projects will help to reduce, abate, control and prevent nonpoint source pollution originating from agricultural sources.

NYS Canal Corporation

The system of four historic canals in New York are operated and maintained by the NYS Canal Corporation, a subsidiary of the NYS Thruway Authority. The canal system links the Hudson River, Lake Champlain, Lake Ontario, the Finger Lakes, and the Niagara River. The Niagara River Watershed hosts the Erie and Black Rock Canals. Pursuant to the NYS Law (21 NYCRR Sub-chapter D, Parts 150-156), all activities on the Erie Canal are regulated by the New York State Canal Corporation. Certain Statewide boating regulations are in force along the Erie Canal, including speed limitations, vessel waste treatment and disposal restrictions, and design and construction requirements for residential/non-commercial docks, decks, platforms and boat launches/ramps.

NYS Health Department, Bureau of Water Supply Protection

The Department's drinking water program, in cooperation with county health departments, regulates the operation, design and quality of public water supplies and commercial bottled water suppliers; assures water sources are adequately protected; provides financial assistance to public water suppliers; reviews and approves plans for proposed realty subdivisions; and sets standards for individual water supplies and individual wastewater systems.

Federal Organizations & Agencies

Army Corps of Engineers (ACE), U.S. Department of Defense

The US Army Corps of Engineers (USACE) undertakes civil works projects, and is involved with water resource management activities such as: coastal and flood protection, disaster preparedness and response, environmental protection and restoration, providing community water supplies, managing outdoor recreation areas, regulatory oversight of navigable waters and wetlands, navigational dredging, and generating hydropower.

US Environmental Protection Agency (EPA)

The mission of the EPA is to protect human health and the environment. Developing and enforcing environmental regulations, providing financial assistance, performing environmental research, sponsoring and promoting partnerships and programs, monitoring hazardous materials, and reporting related information to the public are several of the EPA's many duties.

While the EPA is the primary federal body enforcing regulations such as the Endangered Species Act, the Clean Air Act and the Clean Water Act, enforcement of most of these regulations is generally delegated to the New York State Department of Environmental Conservation (DEC). The EPA provides significant sources of funding to be used by the responsible state agencies for enforcement and implementation of federal laws and regulations.

The Clean Water Act requires states to classify waters according to their best uses and to adopt water quality standards that support those uses. Section 404 of the Clean Water Act requires that anyone interested in depositing dredged or fill material into waters of the United States, including wetlands, must receive authorization for such activities. The U.S. Army Corps of Engineers (USACE) has been assigned responsibility for administering the Section 404 permitting process.

As authorized by the Clean Water Act, the National Pollutant Discharge Elimination System (NPDES) permit program controls water pollution by regulating point sources such as pipes or ditches that discharge pollutants into waters of the United States. Individual homes that are connected to a municipal system, use a septic system, or do not have a surface discharge do not need a NPDES permit. However, industrial, municipal, and other facilities must obtain permits if their discharges go directly to surface waters. In most states, including New York, the NPDES permit program is administered by the state environmental agency. Thus, the NYS Department of Environmental Conservation administers the State Pollutant Discharge Elimination System (SPDES).

The Safe Drinking Water Act protects public health by regulating the nation's public drinking water supply. The law requires many actions that help protect public health and drinking water, including rivers, lakes, reservoirs, springs, ground water wells and other sources.

In conjunction with other international and state agencies, the EPA has developed the Lakewide Management Plan (LaMP) as a framework for integrating the restoration and monitoring practices that have been taking place throughout the Great Lakes for decades. Each of the five Great Lakes has its own LaMP. Agencies in charge of developing and implementing LaMP strategies include the United States Environmental Protection Agency (Region II), Environment Canada, the New York State Department of Environmental Conservation, and the Ontario Ministry of the Environment (collectively referred to as "the Four Parties").

U.S. Department of Agriculture, Natural Resource Conservation Service (NRCS)

The Natural Resource Conservation Service (NRCS) is a U.S. Department of Agriculture (USDA) agency that assists land owners with conserving soil, water and other natural resources. Services include Agricultural Conservation Plans, the Conservation Reserve Program, the Wetlands Reserve Program, preparation of Comprehensive Nutrient Management Plans, and technical assistance to farmers on water quality and erosion control issues.

The Resource Conservation and Development (RC&D) program is one that helps communities improve their economies through the wise use of natural resources. The purpose of the RC&D program is to improve the capability of state, tribal and local units of government and local nonprofit

organizations in rural areas to plan, develop and carry out programs for resource conservation and development. The NRCS provides administrative support for the RC&D program including office space and staff.

Fish and Wildlife Service (FWS), U.S. Department of the Interior

The U.S. Fish and Wildlife Service (USFWS) mission is to conserve, protect and enhance fish, wildlife and plants, and their habitats. The USFWS helps protect a healthy environment for people, fish and wildlife; and helps Americans conserve and enjoy outdoor resources. Major responsibilities address migratory birds, endangered species, certain marine mammals, and freshwater and anadromous fish. The USFWS has jurisdiction over listings for terrestrial and native freshwater species. Under the Endangered Species Act the USFWS determines critical habitat for the maintenance and recovery of endangered species and requires that the impacts of human activities on species and habitat be assessed. USFWS also conducts the National Wetlands Inventory (NWI) used to provide biologists and others with information on the distribution and type of U.S. wetlands to aid in conservation efforts.

National Parks Service (NPS), U.S. Department of the Interior

The NPS preserves the natural and cultural resources and values of the national park system. NPS cooperates with partners to extend the benefits of natural and cultural resource conservation, and outdoor recreation. Sites administered by the National Park Service in the Niagara River Watershed include the Niagara Falls National Heritage Area, Theodore Roosevelt Inaugural National Historic Site (in Buffalo), and the Erie Canal Heritage Corridor. The Niagara Falls National Heritage Area is a 13-mile-long corridor along the Niagara River from the City of Niagara Falls to Lake Ontario in the Town of Porter. The Erie Canalway National Heritage Corridor covers 524 miles in Upstate New York and includes four navigable waterways: the Erie, Champlain, Oswego and Cayuga-Seneca Canals.

United States Geologic Survey (USGS)

The USGS offers an extensive array of services and data related to hydrologic research and development, wildlife and fisheries management, invasive species, geographic information systems, mapping, coastal management and watershed planning. Services include stream flow, flood and high flow, drought, groundwater, earthquake, mineral, and water resources information.

United States Coast Guard, Buffalo

The Coast Guard's Buffalo Station includes departments for Prevention, Logistics and Response. Departmental responsibilities include search and rescue, homeland security, waterways management, and navigational aids, law enforcement, facility and vessel inspections, marine casualty investigations,

engineering (naval and facilities), finance/supply, and logistical support/mutual aid for Coast Guard Stations from Buffalo to Massena, NY and Lorain, OH.

International Organizations & Agencies

International Joint Commission (IJC)

The IJC is an independent, bi-national organization established by the Boundary Waters Treaty of 1909. Its purpose is to help prevent and resolve disputes relating to the use and quality of boundary waters and to advise Canada and the United States on related issues. IJC specific duties involve:

- Reviewing the operation and effectiveness of the Great Lakes Water Quality Agreement;
- Assessment and evaluation of the criteria used for regulating water levels in Lake Ontario and the St. Lawrence River;
- Maintaining the general process in which Remedial Action Plans and Lakewide Management Plans should proceed in order to restore the Beneficial Use Impairments of the Great Lakes; and,
- Supporting the establishment of ecosystem-focused watershed boards, in accordance with a 1998 request from the U.S. and Canadian governments.

Great Lakes Commission (GLC)

The Commission is a bi-national agency that promotes the orderly, integrated and comprehensive development, use and conservation of water and related natural resources of the Great Lakes basin and St. Lawrence River. Its members include the eight Great Lakes states (New York, Pennsylvania, Ohio, Indiana, Michigan, Illinois, Wisconsin, and Minnesota) with associate member status for the Canadian provinces of Ontario and Québec. Each jurisdiction appoints a delegation of three to five members comprised of senior agency officials, legislators and/or appointees of the State governor or Provincial premier.

The GLC researches, compiles and reports a wide variety of information relative to the health and condition of the Great Lakes. Communicating relevant Great Lakes issues to members of congress, coordinating regional monitoring and restoration strategies, and strengthening partnerships among federal, state and local agencies are some of the roles and responsibilities addressed by the GLC.

Environmental Organizations

Buffalo Niagara RIVERKEEPER® (Riverkeeper)

Buffalo Niagara RIVERKEEPER® is a not-for-profit organization that uses legal, scientific, planning, design, policy and advocacy tools to protect and defend WNY's fresh water resources. Riverkeeper's overall organizational goal is to protect and restore WNY's water resources while improving safe and

healthy access to our waterways. Founded in 1989, Riverkeeper partners with community organizations, government, business representatives, and preservationists to develop a shared agenda for restoring our waterways and to secure the resources needed to achieve that vision. Program goals and strategies include: improving community awareness of the Great Lakes and the Niagara River watershed, restoring waterway health through watershed planning and action, improving public water access through greenway planning and action, and improving stewardship of community water resources, including habitat.

Buffalo Audubon Society (BAS)

The BAS is a non-profit organization that promotes appreciation and enjoyment of the natural world through education and stewardship in Western New York including the counties of Erie, Niagara, Genesee and Wyoming. Their 384 acre Beaver Meadow Audubon Center in Java, Wyoming County hosts their nature education programming. In total, the BAS maintains six nature preserves with over 900 acres.

Sierra Club, Niagara Chapter

Since 1892, the Sierra Club is a grass roots environmental organization that has been working to protect communities, wild places and the planet. The Niagara Chapter represents members in Cattaraugus, Chautauqua, Erie, Genesee, Niagara and Wyoming counties. The Niagara Chapter is actively involved in issues surrounding climate change issues, wetlands, forest management, hydro-fracking, hazardous waste, and planning initiatives including the Niagara River Greenway and the Niagara Relicensing Environmental Coalition.

Western New York Land Conservancy (WNYLC)

The WNYLC is a private, non-profit land trust dedicated to preserving the regions irreplaceable natural places, farms, forestlands and open spaces to protect wildlife habitat, recreation areas, and unique scenic resources. Over 4,000 acres of land are now protected through measures such as donation or purchase, and donation or sale of conservation easements (permanent deed restrictions that prevent harmful land uses).

Great Lakes United (GLU)

For over 25 years, GLU has been a coalition focused on ensuring a healthy and vibrant future for the Great Lakes and Saint Lawrence River ecosystem. Current GLU initiatives include addressing legacy pollution and emerging chemicals of concern; improving water quality via international programs, promoting water conservation, and improving regulations to limit invasive aquatic plants and animals.

The Nature Conservancy (TNC), Central & Western New York Chapter

The TNC’s mission is to preserve the plants, animals and natural communities that represent the diversity of life by protecting the lands and waters they need to survive. Their Central & Western NY Chapter works in eight priority conservation landscapes. They have protected nearly 100,000 acres of central and western NY landscapes.

Additional Organizations*

There are a number of smaller environmental organizations, sportsmen’s clubs, educational and research organizations, community groups and non-profit organizations not outlined previously that are involved with a wide variety of environmental concerns within the Niagara River Watershed, including:

- | | |
|---|---|
| Buffalo State College-Great Lakes Center | John R. Oishei Foundation |
| Center for Sustainable Communities and Civic Engagement at Daemen College | Keep WNY Beautiful |
| Citizens’ Environmental Coalition | League of Women Voters of Buffalo/Niagara |
| Citizens Campaign for the Environment – | Massachusetts Avenue Project |
| Citizens for a Green North Tonawanda | Nature Sanctuary Society of WNY, Inc. |
| Clean Air Coalition of WNY | Niagara County Federation of Conservation Clubs, Inc. |
| Clean Communities of WNY | Niagara Frontier Wildlife Habitat Council |
| Clinton Bailey Community Association | Niagara River Anglers Association |
| Coalition of Impacted Neighborhoods | NY Sustainable Agriculture |
| Coalition on West Valley Nuclear Wastes | Old First Ward Community Center |
| Community Foundation of Greater Buffalo | Olmsted Parks Conservancy |
| Cornell Cooperative Extension (Erie & Niagara Counties) | PUSH Buffalo |
| Curtis Urban Farm Foundation | Residents for Responsible Government |
| Environmental Justice Action Group of WNY | ReTree WNY |
| Erie County Federation of Sportmen’s Clubs, Inc. | Seneca Babcock Environmental Subcommittee |
| Friends of Broderick Park | SUNY Buffalo-Great Lakes & ERIE Programs |
| Friends of Times Beach Nature Preserve | Tift Nature Preserve |
| Grant-Amherst Business Association | Valley Community Center |
| GreenWorks Buffalo | WNY Climate Action Coalition |
| GObike Buffalo | WNY Drilling Defense |
| GROW WNY | WNY Environmental Alliance |
| Hickory Woods Homeowners for a Clean Environment, Inc. | WNY Marine Trades Association |
| Highland Community Revitalization Committee | WNY Sustainable Energy Association |
| | WNY Trout Unlimited |

**This is not meant to be a complete list, but rather a snapshot of the sheer number of organizations with various levels of involvement in this important work.*